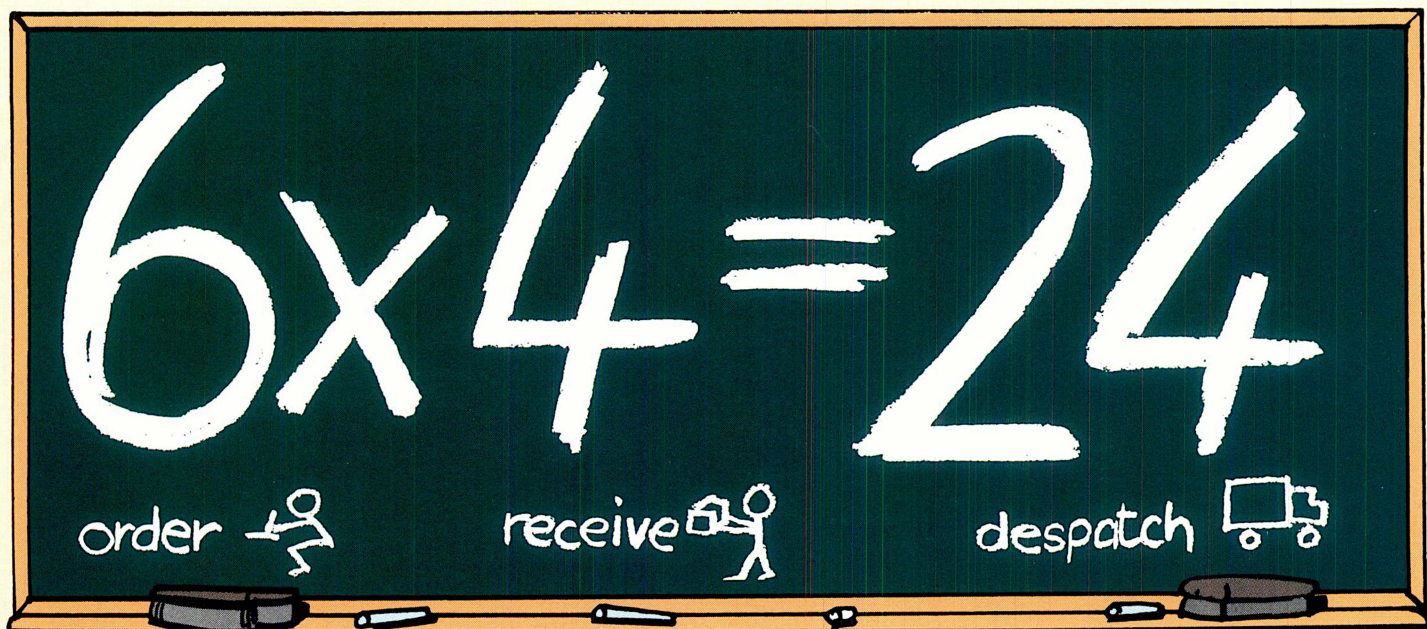


PTY LTD

1988/9



50¢



Multiply DSXpress' better service! Take our 6 ways to place your order, multiply our 4 ways to receive your order . . . the answer's clear: our 24 hour despatch is unbeatable!

6 Ways to Order

(1) Phone: Quick and Easy!

All it costs is a local call: from anywhere! Our Credit Card Orderline is ready to take your call.

(2) Fax: You keep a copy!

So simple: and you can order 24 hours a day by fax! Call (02) 888 3631 to fax your order through.

(3) Telex: We're ready!

Most businesses have telex — you can place an order by telexing (AA) 20036.

(4) Telegram: In a hurry?

Your telegram can be delivered by hand, or to our telex machine. Telegraphic address: Diksmit, Sydney.

(5) Viatel: It's up-to-date

As more and more people switch on to Viatel, so did we! Look up the electronic ordering system on page 345720 of Viatel.

(6) Mail: the old faithful!

We're proud of our mail order service — it's been going over 20 years. You can check out DSXpress by posting an order today!

4 Ways to Receive

Low-cost delivery methods, with freight subsidised by DSXpress. Check out our rates: you'll be surprised.

(1) Air Freight

It's quick — normal delivery to most areas in Australia is next day! And we'll even air freight overseas.

(2) Road Freight

We go anywhere . . . especially with heavy and bulky items. Very handy in the back blocks.

(3) Post it!

Australia Post will get your parcel there! It's reliable — and it's quick! Yes, we even subsidise packing and postage!

(4) Courier it!

DSXpress couriers orders all over Sydney for customers who simply can't wait! And we'll even charge goods to your credit card.

24 Hour Despatch

The equation is complete: your order is despatched within 24 hours of receipt (assuming the goods are in stock!). Your order is valuable to us: it doesn't lie around in a pile for a few days until someone gets around to it!

Trust DSXpress: you'll find there is a real difference!

All Major Credit Cards Accepted

We accept all the major credit cards: Bankcard, Visa, Mastercard, American Express, Diner's Club . . . as well as cheques, money orders, bank drafts, etc.

Have you tried DSXpress?

If you can't make it to a DSE store, DSXpress is ready to serve you! Any catalogue item can be ordered through DSXpress — and DSXpress guarantee your order will be on its way at most within 24 hours — usually it's same day! The same friendly service. The same great products. The same low, low prices. They're all yours at DSXpress. Join the DSXpress family — you'll be glad you have a relative in the business!



CALL 24 HOUR TOLL-FREE
(RING FROM ANYWHERE FOR THE COST OF A LOCAL CALL)

008..2266 10

(SYDNEY AREA [02] CALL 888 2105)

24 HOUR DESPATCH

DSX PRESS
DICK SMITH ELECTRONICS EXPRESS ORDER SERVICE

Q U I C K — I N D E X

For full index see page 99

Dear Customer,

Welcome to the 1988 Dick Smith Electronics Hobbyist and Enthusiast Catalogue.

You've probably already noticed that this catalogue is different from previous years. For a start, it's thinner!

Does this mean that Dick Smith Electronics has less products to offer the hobbyist and enthusiast this year?

No! Exactly the opposite, in fact. If you have a close look at the Hobbyist and Enthusiast Catalogue, you'll find that's all it has in it: hobbyist and enthusiast products.

One of the things you, the hobbyists and enthusiasts, even the technicians, engineers and other electronics professionals, told us that you're only occasionally interested in "consumer electronics": the fun products, the phones, the audio products and so on. You wanted a catalogue of your own, containing the products YOU were interested in.

So here it is!

100 pages devoted to hobbyist and enthusiast products — that's about a 10% increase since last year (look for all the "New for 88" emblems).

Of course, there is also a "Consumer Electronics" catalogue available from Dick Smith Electronics.

This issue marks 2 decades in this exciting business — and we're more committed than ever before to offering the complete needs of the serious hobbyist.

With regards,

Jeff Grover

Jeff Grover,
Managing Director



**Looking
for a Gift
Idea?**

SAMPLE ONLY		GIFT VOUCHER	
NAME _____		REDEEMABLE AT ANY DICK SMITH ELECTRONICS STORE AUSTRALIAWIDE, FOR GOODS TO THE VALUE OF \$10	
DATE _____			
CS NO. _____			
ISSUING STORE _____			
STORE NO. _____			
SIGNED _____			
DATE _____			
\$10		\$10	
SERIAL NO. _____		SERIAL NO. _____	
DICK SMITH ELECTRONICS PTY LTD. INC. N.S.W. CAT NO. Y-2299			

The Dick Smith Electronics catalogue is crammed full of gift ideas for the hobbyist.

But what do you choose?

Make it easy on yourself: give your favourite hobbyist a DSE Gift Voucher, so they can make their own choices!

DSE Gift Vouchers are available from your nearest Dick Smith Electronics store.

Kits



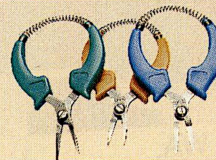
6-19

Test Equipment



20-35

Tools



26-33

Components



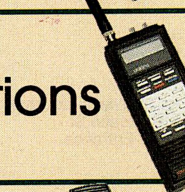
34-69

Amateur Radio



70-73

Communications



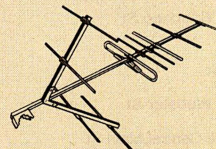
74-75

CB & Marine



76-79

TV Antennas



80-81

Books



82-85

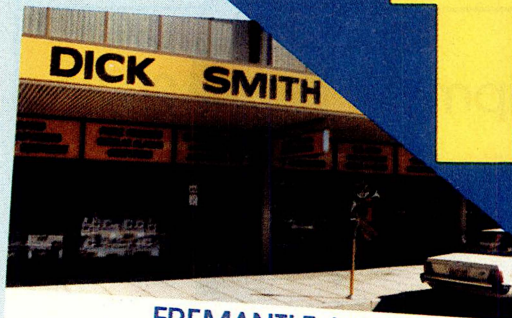
Data Section



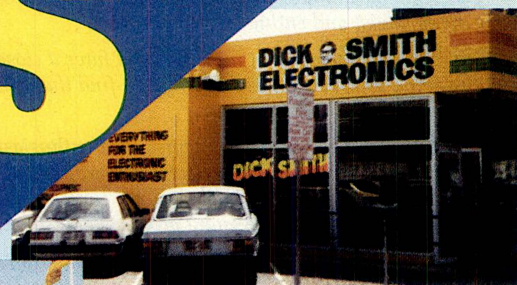
86-98

PLEASE NOTE: This is a reprint of our 1988 Hobbyists Catalogue. While products and prices were current at press time (August 1988) currency fluctuations, Government Policies and other causes beyond our control may force price changes, product differences, etc. Please enquire at your nearest Dick Smith Electronics store or authorised re-seller for latest prices and product availability.

ALL THIS



FREMANTLE, WA.



BENDIGO, VIC.



DARLINGTON, SA.



CHERMISIDE, QLD.



FYSHWICK, ACT.

Australian Store Locations

NSW

Swift & Young Sts.
T55 Terrace Level
Shop 1, 65-75 Main St
2 Denison St
Shop 2, 1B Cross St, Warringah Mall
Campbelltown Mall Queen St
Shop 235, Archer St Entrance
147 Hume Hwy
164 Pacific Hwy
99 Donnison St
4 Florence St
Elizabeth Dr & Bathurst St
450 High Street
621-627 The Kingsway
173 Maitland Rd, Tighes Hill
Lane Cove & Waterloo Rds
George & Smith Sts
Cnr Henry & Riley Sts
818 George St
125 York St
Treloar's Bldg, Brisbane St
263 Keira St

ACT

96 Gladstone St
VIC
Creswick Rd & Webster St
145 McCrae St
Shop 46, Box Hill Central, Main St
260 Sydney Rd
Shop 1, 176 Lonsdale St
Hawthorn Rd & Nepean Hwy
1150 Mt Alexander Rd
Shop 11/13 Footscray Plaza
Nepean Hwy & Ross Smith Ave
Shop 9 110, High St
Shop 1, 399 Elizabeth St
Bridge Rd & The Boulevard
Shop 2, 141 Maroonah Hwy
Springvale & Dandenong Rds

QLD

157-159 Elizabeth St
166 Logan Rd
42-44 Florence St
Gympie & Hamilton Rds
2nd Level Western Entrance
Redbank Shopping Plaza
Queen Elizabeth Dr & Bernard St
Gold Coast Hwy & Welch St
Bowen & Ruthven Sts
Kings Rd & Woolcock St
Cnr Pacific Hwy & Kingston Rd
SA
77 Grenfell St
688 Port Road
Main South & Flagstaff Rds
Shop T25, Elizabeth City Centre
Main North Rd & Darlington St

Albury (060) 21 8399
Bankstown Sq (02) 707 4888
Blacktown (02) 671 7722
Bondi Junction (02) 387 1444
Brookvale (02) 905 0441
Campbelltown (046) 27 2199
Chatswood Chase (02) 411 1955
Chullora (02) 642 8922
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Hornsby (02) 477 6633
Liverpool (02) 600 9888
Maitland (049) 33 7866
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Newcastle (049) 61 1896
North Ryde (02) 88 3855
Parramatta (02) 689 2188
Penrith (047) 32 3400
Railway Square (02) 211 3777
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Tamworth (067) 66 1711
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Fyshwick (062) 80 4944
Ballarat (053) 31 5433
Bendigo (054) 43 0388
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Essendon (03) 379 7444
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Buranda (07) 391 6233
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Chermiside (07) 359 6255
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Townsville (077) 72 5722
Underwood (07) 341 0844
Adelaide (08) 232 1200
Beverley (08) 347 1900
Darlington (08) 298 8977
Elizabeth (08) 255 6099
Enfield (08) 260 6088

WA

Wharf St & Albany Hwy
66 Adelaide St
William St & Robinson Ave
Raine Square, 125 William St
TAS
Shop 40A, Lower Level
Cat & Fiddle Arcade
NT
20 Stuart Hwy

442 Karangahape Rd
1795 Great North Road
Victoria Road & Bealey Avenue
Manse & Stafford Streets
450 Anglesea Street
440 Cuba Street, Alicetown
Cnr Khyber Pass & Park Rds
26 East Tamaki Road
16 Lydney Place
289 Cameron Road
154 Featherston Street

NSW

Sound Components, 244 Beardy St
Ballina Electronics, 102a River St
F.R.H. Electrical, 27 Station St
Hobbies & Electronics, 21 Oxide St
Newtronics, 131 Pacific Hwy
Coffs Harbour Electronics, Shop 3
Coffs Harbour Mall Park Ave
Deni Electronics, 220 Cressy St
Chris's Hi-Fi, 1/100 Talbragar St
Miatronics, 166-170 Banna Ave
Lyn Willing Electronics, 32 Lawrence St
Moree Electronics, 26 Balo St
Headware, 136 Church St
Nowra Electronics, 218 Adelaide St
Strad Music Centre, 279-281 Clarinda St
Hall of Electronics, The Horton Centre, 124 Horton St
Phillips Electronics, 60 Forsyth St
Keith Donges Electronics, 186 Boorowa St

VIC

Morwell Electronics, 35 Holmes Rd
Phillips Electronics Pty. Ltd., 137 High St
Martronics, Shop 12, Norfolk Plaza, 743 Raglan Pde
QLD
Bob Elkin Electronics, 81 Bourbong St
Electro-Mart, 9 Tay Ave
Splitex, Shop 5, Cartwright Centre, Nicklin Way
Stevens Electronics, 42 Victoria St
Keller Electronics, 218 Adelaide St
Hutchessons Communications Centre, 5 Elizabeth St
WA
Micro Electronics, 133 Lockyer Ave
Batavia Lighting & Electrical, 98a Chapman Rd
Dave's Oscitronics, 1st Floor,
Savings House, Hedland Place
Ivan Tomek Electronics, 30 Anderson St
TAS
A.I. Electronics & Hobbies, 165 William St, Fourways

Cannington (09) 451 8666
Fremantle (09) 335 9733
North Perth (09) 328 6944
Perth City (09) 481 3261

Hobart (002) 31 0800
Stuart Park (089) 81 1977

New Zealand Store Locations

Auckland City (09) 394 402
Avondale (09) 886 696
Christchurch (03) 50 405
Dunedin (024) 741 096
Hamilton (071) 394 490
Lower Hutt (04) 662 022
Newmarket (09) 393 192
Papatoetoe (09) 278 2355
Porirua (04) 376 654
Tauranga (075) 87 071
Wellington (04) 739 858

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Armidale 72 4981
Ballina 86 7022
Bowral 61 1861
Broken Hill 88 4098
Charlestown 43 9600
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Deniliquin 81 3672
Dubbo 82 8711
Griffith 62 4534
Inverell 22 1821
Moree 52 3458
Mudgee 72 3895
Nowra 21 0722
Parkes 62 3366
Port Macquarie 83 7440
Wagga 21 6558
Young 82 1279
Morwell 34 6133
Shepparton 21 9497
Warrnambool 62 9870
Bundaberg 72 1785
Caloundra 91 8533
Kawana 94 7349
Mackay 51 1723
Maryborough 21 4559
Mt Gambier 25 0400
Albany 41 2077
Geraldton 23 1842
Karratha 85 4836
Port Hedland 73 2531
Devonport 24 8322

HEAD OFFICE: Ph (02) 888 3200

Cnr Lane Cove and Waterloo Roads, North Ryde NSW

Postal Address: PO Box 321, North Ryde NSW 2113 Australia

FAX: (02) 888 3631 Telex: AA20036 Cables: 'DIKSMIT' Sydney



**DICK SMITH ELECTRONICS
EXPRESS ORDER SERVICE**

ORDERS [TOLL FREE] (008) 22 6610

SYDNEY AREA ORDERS AND ALL ENQUIRIES: (02) 888 2105

FAX, Mail, Telex and Cables as above.

SERVICE AND SPARES:

Sydney Service Centre & Spare Parts

(02) 888 3077

Melbourne Service Centre

(03) 429 5817

Brisbane Service Centre

(07) 391 8096

Canberra Service Centre

(062) 86 2875

Other capital cities: Service enquiries through your local store.

All Dick Smith Electronics stores are "depots" for lodgement of warranty and general service repairs. To save you time and money please lodge repairs with the store nearest you (we pay freight charges between store and service centre).

Your local store can also obtain spare parts against a firm order and deposit, normally within a few days.

PRODUCT HOTLINE

(02) 888 2002

Mon-Fri, 9am to 5pm EAST

For queries, problems and information about the DSE range of computers and high-tech products.

DSE BULLETIN BOARD

(02) 887 2276

24 hours

V21/V22 (300/300 or 1200/1200 baud, auto sensing)
8 data bits, 1 stop bit, no parity.

Uploading of files using all popular transfer protocols.

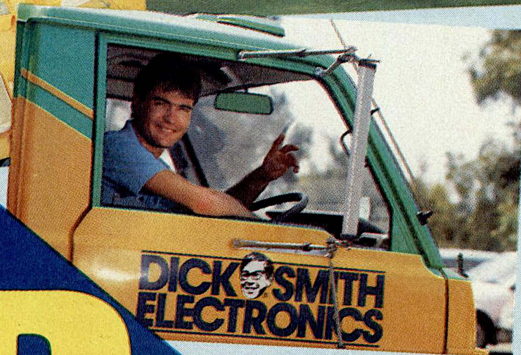
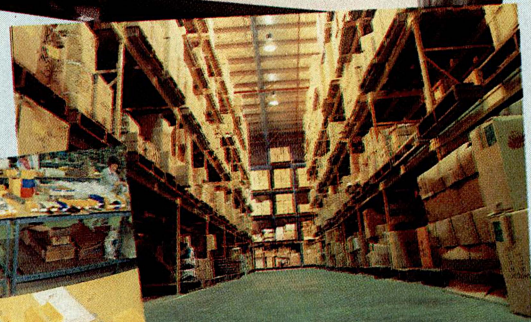
And best of all . . . it's FREE!



For information on
becoming an
authorised
stockist
of DSE

products, or purchasing
goods in commercial
quantities, please
call DSE Wholesale
on Head Office
number
above.

AND MORE



**DSE
KITS**

They look so good your friends won't believe you built them!

You should insist on a quality Dick Smith Kit. As the number one kit supplier in the Southern Hemisphere, a DSE kit is your guarantee of quality and value. Here's why:

- ★ We use only brand new, prime spec components: Beware of other kit suppliers who may use manufacturer's seconds or inferior components — just to save a few cents!
- ★ We guarantee the quality of our kits by including our unique kit quality control card in every kit. In the unlikely event of a problem, we know we can help!
- ★ We build a prototype of EVERY kit: not just where possible, or where we feel like it, but every kit. We find out the problems before they affect you!
- ★ We re-write the instructions in clear, easy-to-understand terms: and every kit includes our exclusive "Guide to Kit Construction". Building a Dick Smith Kit is a breeze compared to other kits!
- ★ We hold spare parts for all current kits: even the difficult and hard-to-get parts are held as spares. If you need a spare part, any DSE store will be able to get it for you: fast!
- ★ We take the hard part out of building kits: most constructors have difficulty with slots, holes and panels. So we do them for you on most kits. And on complex kits our pc boards are solder masked to help you get your kit going: first time!
- ★ We have the exclusive "Sorry Dick, it Doesn't Work" service available on complex kits. If you get into trouble, we can get you out of it for a fixed service fee, which you know before you start building the kit!
- ★ We have the exclusive "Too Hard for Me, Dick" service: if you think a kit is too hard for you to build, you can return before you start construction (ie before any inner packs are opened) for a full refund of purchase price!
- ★ We take pride in our kit range: it's not only the largest range, it's the best range: a kit for everyone from the absolute beginner to the highly experienced. And it's constantly being upgraded as new kits come out in the magazines. Don't settle for second best — Dick Smith Kits are the ones to build!

**DICK SMITH
ELECTRONICS**

NO. 1 IN KITS FOR MORE THAN 20 YEARS

DIY

DO IT YOURSELF. . . AND SAVE!

It's true! Building a Dick Smith Kit will save you money!

When you buy a piece of commercial equipment, you're paying for someone else's time to put it together. When you build a Dick Smith Kit, you supply the labour — so you save!

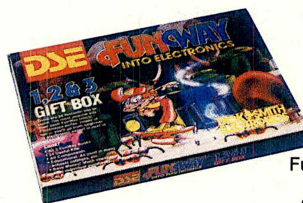
But you save even more: you'll find that the cost of the individual components in the kit is more than the cost of the kit (that's if you could buy many of the specialised components often in today's kits!).

However, no-one builds a kit just to save money: you build it for the satisfaction. You build it because it teaches you electronics skills. You build it because it's something that's not easily affordable. Or you build it for a dozen other reasons!

But Dick Smith Kits gives you the opportunity to. . .

DO IT YOURSELF

The FunWay Into Electronics... value plus gift packs!



FunWay 1, 2 & 3 Gift Box

Sensational value: contains two projects selected from each of the three popular FunWay kits... Over \$120 value for only \$85! This is one of the most inexpensive ways to

learn about electronics... ideal gift for children because it entertains and educates. The pack contains all three books and a selection of the most popular and stimulating projects from each. Build a Flashing Brooch, Wireless Microphone, Cricket and Mini Amplifier plus much more! Cat K-2680

\$85

Shipping Weight: 1.5kg
Shipping Size: 430 × 295 × 50mm

FunWay Jumbo Gift Box

Here's even bigger value! This pack isn't called the Jumbo pack for nothing: it's chock-a-bloc with over 30 projects and a quality soldering iron to


build them all. Almost \$180 value at a price most parents can afford... and what price can you place on your children's future... this may be the best gift a parent can give. Cat K-2690

Shipping Weight: 2.5kg
Shipping Size: 430 × 295 × 40mm

\$149



**DICK SMITH'S
FUN WAY INTO
ELECTRONICS**



A BEER POWERED RADIO - JUST ONE OF THE EXCITING PROJECTS YOU CAN MAKE - WITH NO KNOWLEDGE OF ELECTRONICS AT ALL!

★ Hours of fun and excitement building 20 educational projects
★ Completely safe - ideal for all ages
★ Find out what electronics is all about - the fun way!

ONLY \$4.95*

written by **DICK SMITH**

FIFTEENTH PRINTING

NO SOLDERING REQUIRED

VOLUME

1



To build these projects you will need:

FunWay One Project Kit 1-10

Enables you to build any of the first ten projects in FunWay One. And because the components are not soldered, they are all reusable so you can build any other of the first ten projects, too. Cat K-2600



To build these projects you will need:

FunWay One Project Kit 11-20

Contains the more specialised components required to complete the last ten projects (11-20) in FunWay 1. Note: you will also need the 1-10 kit above to build these projects. Cat K-2610



1. Continuity Indicator.

Just like a multimeter — it will show you if you have a complete circuit or an open circuit. A light emitting diode glows if the circuit is complete.



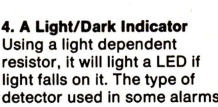
2. Transistor Tester

As well as telling you if your transistor is okay, it shows you how transistors work!



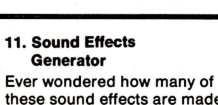
3. Water Indicator

Do your plants need a drink? This simple circuit will tell you how much water is in the soil!



4. A Light/Dark Indicator

Using a light dependent resistor, it will light a LED if light falls on it. The type of detector used in some alarms.



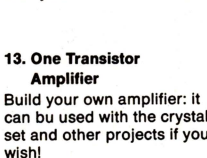
11. Sound Effects Generator

Ever wondered how many of these sound effects are made in the movies? Build this and you can make some of your own!



12. A Crystal Set

Free radio — no batteries to buy, nothing to turn off! Listen in to your favourite station!



13. One Transistor Amplifier

Build your own amplifier: it can be used with the crystal set and other projects if you wish!



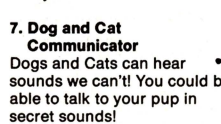
5. The Flasher

Want to add flashing lights to a model train layout? This project will do it for you!



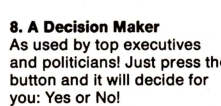
6. An Electronic Siren

A mini version of the siren on Police cars! Fantastic to add to toys!



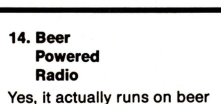
7. Dog and Cat Communicator

Dogs and Cats can hear sounds we can't! You could be able to talk to your pup in secret sounds!



8. A Decision Maker

As used by top executives and politicians! Just press the button and it will decide for you: Yes or No!



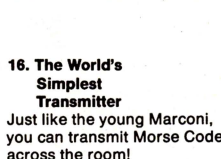
14. Beer Powered Radio

Yes, it actually runs on beer (or Coke)! Listen in (as long as you don't drink the battery!)



15. Two Transistor Amplifier

Even more power — enough to drive a speaker so you can listen in without headphones.



16. The World's Simplest Transmitter

Just like the young Marconi, you can transmit Morse Code across the room!



9. Morse Code Communicator

Amateur Radio operators send Morse code all over the world. You can learn the code too (or send secret messages!)



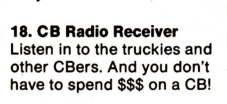
10. Music Maker

Your own electronic organ. And it really will play simple tunes, too!



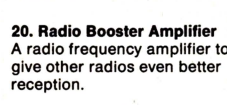
17. Voice Transmitter

Imagine being able to transmit your voice to a radio set! This project makes it easy!



18. CB Radio Receiver

Listen in to the truckies and other CBers. And you don't have to spend \$\$\$ on a CB!



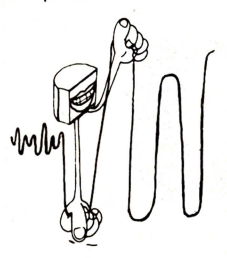
19. Amateur Radio Receiver

A radio receiver to listen in to ham operators plus other stations in the 2-6MHz bands.



20. Radio Booster Amplifier

A radio frequency amplifier to give other radios even better reception.



Where it all began! The best selling manual now used as an introductory textbook in countless schools, colleges, youth groups, etc etc around the world.

FunWay 1 assumes you know absolutely nothing! It will show you what the components look like, how to connect them into the circuit, even how to go on with further experiments with your circuit when they are finished.

For complete safety, no soldering is required. All components are connected by screwing them into our unique 'breadboard' system with cut-out plans showing where the components actually fit.

And even more: you'll learn what each circuit symbol looks like as you use it! **\$4.95**

FunWay 1: The ideal introduction for beginners from 6 to 66!

FUNWAY 1 GIFT BOX

All the components AND FunWay 1 Book in a great pack — everything needed to build any of the projects in FunWay 1! PLUS our specially manufactured re-usable plastic 'breadboard' — a great way to build not only the FunWay 1 kits, but also to 'mock-up' other circuits as you become more advanced.

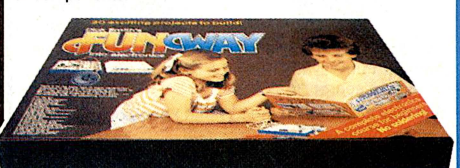
AND EVEN MORE! Everything is housed in a multi-division plastic tray, which is fantastic for housing components in, both now and in the future.

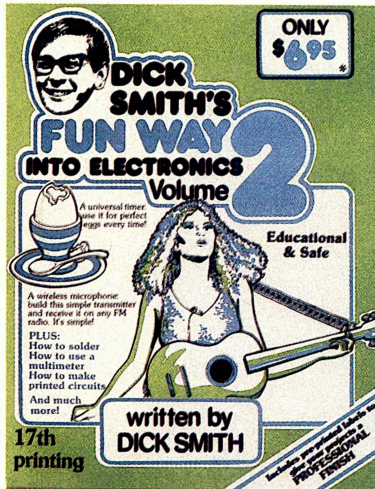
The FunWay 1 Gift Box makes an ideal birthday or Christmas present... and who knows: it could be the start of an absorbing lifetime hobby in electronics, or even an exciting career! Cat K-2605

Here's what you get:

- 24 resistors
 - 18 capacitors (including a variable type)
 - 2 transistors
 - 1 integrated circuit
 - 2 LEDs
 - 1 light dependent resistor
 - 1 diode
 - 1 potentiometer
 - 1 speaker
 - 1 ferrite rod aerial
 - 1 crystal earphone
 - 1 audio transformer
 - 1 battery clip
 - hook-up wire
 - baseboard
 - screws & washers
 - the re-usable plastic parts tray PLUS a copy of FunWay Into Electronics, Volume 1
- Batteries, Morse keys, etc. not included.
- \$26.95**

Parents Note: FunWay projects have been designed to be completely safe for even the youngest constructor. They are all battery operated and use no dangerous voltages or components.





VOLUME 2

You've built all the projects in FunWay 1 — and looking for something new. Something bigger. Something better. Something more exciting...

Here it is: FunWay 2! It takes over where FunWay 1 finishes, with 20 exciting new projects to try out.

But these projects are different! They're all built the modern way — on printed circuit boards. Which means, of course, all components are soldered into position.

Don't know how to solder, or use printed circuit boards? No worries, FunWay 2 teaches you how. You'll find out how to get a good solder joint, and how to avoid the pitfalls.

and the projects themselves have all been specially chosen to be 'useful'. Just look at the project on the right and you'll agree! They're all battery operated, so there's no danger either!

Also the projects themselves have all been specially chosen to be 'useful'. Just look at the project on the right and you'll agree! They're all battery operated, so there's no danger either!

Also includes features on pioneers of electronics, plus 'how to use a multimeter'.

PLUS! Specially printed labels to make your circuits look really professional! Great for school projects, too! Cat B-2605

FUNWAY 2

GIFT PACK

Here's a gift bargain for the budding electronics genius: our FunWay 2 Gift Pack. Specially selected for value, it includes all the beginner needs to build a kit!

Here's what you get:

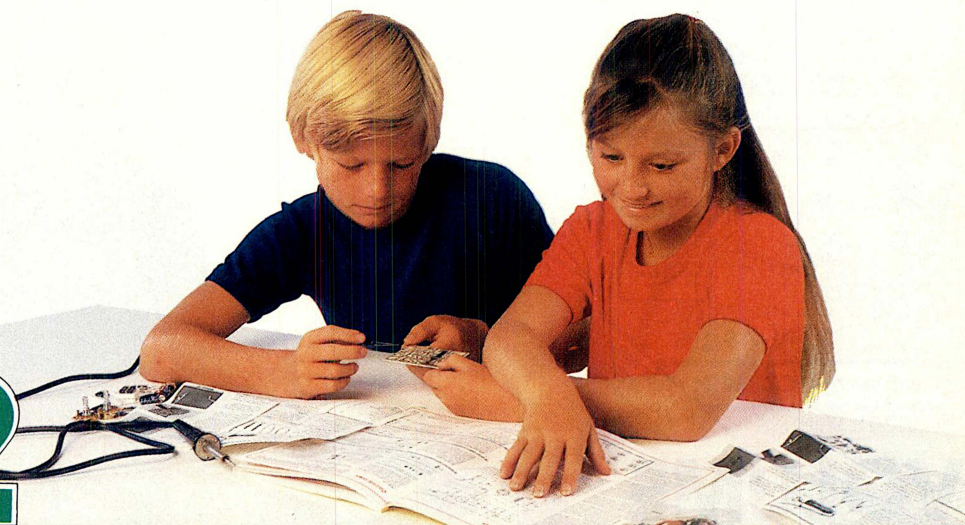
- A copy of FunWay, Volume 2
- A top quality DSE soldering iron — worth over twenty dollars on its own!
- A pack of solder
- A fresh 9 volt battery

\$39.95

PLUS! A Wireless Microphone Kit: by far our most popular FunWay kit! It can be used as a microphone or even a secret "bug"!

FunWay 2 Gift Pack: the gift that keeps on giving. Cat K-2620

Shipping Weight: 700g
Shipping Size: 380 x 220 x 50mm



FunWay 2 Kits!

There's something here for everyone! Sage — simple — economical — fun! Each kit contains brand new, guaranteed components.

1. Flasher
Make it as the latest in electronic jewellery, or a burglar warning light, etc. The choice is yours and it's easy! Cat K-2621

DARKROOM IN USE \$3.95

2. Ding Dong Doorbell
Yes, it actually sounds like a great old fashioned doorbell. But it's electronic: and you can build it! Cat K-2622

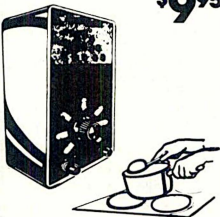
\$5.95

3. Morse Code Trainer
You can turn this audible alarm into just about anything requiring sound. Even for Morse code — and it's fun to learn! Cat K-2623

\$12.95

4. Universal Timer
Eggs too hard? Time them with this little timer. It really works — set it for a few seconds to 15 minutes! Cat K-2624

\$9.95



5. Electronic Dice
Just as much fun using it as it is building it! And it is really random — no cheating with this dice! Cat K-2625

\$7.95



6. Mini Organ
Snazzy little circuit uses the back of the PCB as the keyboard! Play a tune — it's easy! Cat K-2626

\$12.95

7. Pocket Transistor Radio
Building this small set will teach you a lot about the fundamentals of radio. And then you'll have fun using it too! Cat K-2627

\$12.95

8. Touch Switch
Ever wondered how those lift buttons worked? Build this touch switch yourself and you'll be able to work it out. Variety of functions explained. Cat K-2628

\$7.95



9. Mosquito Repeller
Do mozzie repellers really work? Build this one and find out. Based on university research, intriguing! You won't hear it — but the mozzies will! Cat K-2629

\$7.95

10. Intercom Amplifier
Use to make the intercom (Project 18) or use as a general purpose amplifier. Really handy, good sound output too! Cat K-2630

\$7.95

11. Wireless Microphone
Just like the 'bugs' used in spy movies! Transmits to any standard FM radio in another room or next door, etc. You can really hear it all! Cat K-2631

\$7.95

12. Light Activated Switch
Useful in many security applications around the home etc. if a light goes on, the switch works. You could even use it to trigger a burglar alarm. Cat K-2632

\$6.95

13. Metal/Pipe Locator
Extremely handy for locating pipes, wires, etc. in walls before drilling holes. Surprisingly effective for such a simple circuit. Cat K-2633

\$7.95



14. Sound Activated Switch
Picks up sound and triggers. Use as a telephone bell extender without breaking Telecom regulations or in security applications. Cat K-2634

\$12.95

15. Home/Car Alarm
Very practical! You could use this alarm to protect your home and property! Uses any of the normal alarm triggering devices. Cat K-2635

\$9.95

16. Electronic Siren
Just what you need with the alarm! Also makes a great sound effects circuit — and FunWay 2 tells you what to do! Cat K-2636

\$7.95



17. LED Level Display
Hook it up to your stereo and it can warn you of dangerous overloads. Looks pretty nitty too — the LEDs light up in time to the music! Cat K-2637

\$9.95



18. Intercom Unit
Build your own intercom and use it around the home. Practical, simple to build with the intercom amplifier (Project 10). Cat K-2638

\$12.95

19. LED Counter Module
A perfect introduction to the world of integrated circuits. And this useful counter can be used for a huge variety of counting applications — or just for fun! Cat K-2639

\$12.95

20. Shortwave Receiver
You will be able to tune a variety of shortwave stations or, with simple modifications, emergency services and amateurs, etc. Easy and fun to build. Cat K-2640

\$12.95



Please note:

The kits do NOT include instructions. All information is published in FunWay Volume 2, which is necessary before construction can begin on any kit.

NOTE: Cases shown are not included in basic kits.



VOLUME 3



FunWay 3 Kits!

Here are the exciting FunWay 3 projects, each of them fully explained in FunWay into Electronics, Volume 3. You can't go wrong because all the instructions are right there in the book — along with useful tips on how to really make your projects look snazzy with the labels supplied in the book, how to fit these into zippy boxes... Your projects will be real winners!



1. Light and Sound

What versatility! It's really 6 projects in one: you just build the form you want — a LED flasher, a mini strobe flasher, police siren, motor boat sound effects, continuity tester and Morse Code practice oscillator. Cat K-2665

\$12⁹⁵



2. Two Up

Australia's 'national game' has finally been converted to electronics. And you don't have to find any King George pennies! Simulates the throw, the spin and the final result. Come in spinner! Cat K-2661

\$13⁹⁵



3. Cricket

Here's a ton of fun! Hide the cricket: when the lights go out it starts chirping. Turn the lights on or make a noise and it stops. Makes it so hard to find!!! It really is infuriating! Cat K-2663

\$12⁹⁵



4. Mini Stereo Amp

Want an amplifier for the 'walkie' stereo or radio? Don't be tied to 'phones: use this project and listen in comfort! Or you can build this into a mini PA amplifier. Cat K-2667

\$19⁹⁵



5. Minder

C'mon Guvnor — leave the auto alone. That's the FunWay 3 Minder telling villains that it is looking after the car! It's actually doing much more — makes a great 'lights on' warning and 'door open' warning as well as a pseudo burglar alarm. Cat K-2660

\$9⁹⁵



6. Mini Colour Organ

Your very own disco colour organ — but ours is battery operated — so it's much safer than mains devices! Connect it to your radio, cassette or stereo for a real lightshow! Cat K-2664

\$13⁹⁵



7. Combination Time Lock Switch

You can make a game — or make a Teal electronic 'lock' with this one. Use it to control an alarm, a door control, etc. You set the combination you want — or change it when you wish. Try and beat this one — if you can! Cat K-2666

\$17⁹⁵



8. Lil Pokey

You'll have a ball with this one — and you don't risk losing a single cent! A digital project which not only shows how the one armed bandit works — it teaches you how logic circuits work, too. Cat K-2662

\$24⁹⁵



9. Binary Bingo

A great school project: it's a fun game — but even more it demonstrates binary numbers very well. And they're the basis of all computers! It seems pretty simple to play... but try it! Cat K-2668

\$19⁹⁵



10. Mini Synth

It's a real beauty, this one: a real 'live' musical synthesiser — and it's live because it uses YOU as the note generator! You get an amazing range of control over the sound. Cat K-2669

\$19⁹⁵

And when you've finished FunWay 3???

You're ready to build just about any of the kits from the Dick Smith range — and that's a lot of kits to choose from!

You'll be able to solder properly, identify all components, read circuit diagrams, even use test equipment!

You could even be ready for a career in electronics! And it all starts with Dick Smith's FunWay into Electronics.

Another 100 pages of fun: that's FunWay Volume 3. It's the logical progression for those who have worked through FunWay 1 and 2.

It's for the more advanced hobbyist, because FunWay Volume 3 projects are all based on Integrated Circuits. There are ten projects in the book, but many of the projects can be built in a number of forms — so there are virtually as many 'individual' projects in FunWay 3 as there are in the other two books.

And because the FunWay 3 projects are more complex, they are dealt with in rather more detail. More explanation, more construction details — so you learn much more with FunWay 3.

But the projects are just as fascinating to build, so they're still FUN! Have a look at the projects at right, and you'll see that there really is a great range — something for everyone!

And they're even more fun to play with when they're built. Like FunWay Two, FunWay Three includes deluxe projects labels printed on specially coated paper in the back of the book. Use these with Zippy Boxes, and your project looks a million dollars! Cat B-2610

\$6⁹⁵

FUNWAY 3 BONUS PACK

And what value! Buy this kit with two of the most popular kits in the FunWay Three book... and we throw the book in **FREE!** Yes, you get the Electronic Cricket project (known to his friends as Nocturnalis Stridulus Grilledae) plus the Miniature Amplifier projects — together valued at \$31.60 — and as a bonus, the FunWay Three book itself at no extra charge!

Fantastic gift idea... also makes ideal school project material. And this book gives details on how to really dress up your kits for top presentation... and top marks!

Whether you want to learn more about electronics, or just have fun building interesting circuits, you won't do better than with FunWay into Electronics. And the FunWay 3, you really move up into the

electronics 'big time'. This fantastic bonus pack will get you started. Cat K-2670



\$29⁹⁵



\$199 ***

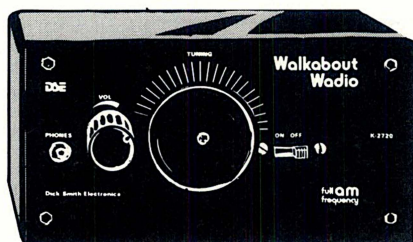
IR Remote Control Preamp

Full command over your hi-fi system **Without** moving from your chair! The IR Remote Preamp comprises a complete preamp in which all functions can be selected by infrared remote control. And it's loaded with features! Plug it into your existing system via the tape monitor loop or use it with a power amp in a new system. An incredible array of LEDs give you a constant status report on the entire system. The bargraph volume display automatically indicates bass, treble, balance (up/down) while these functions are being set — it then returns to the volume mode. All panel controls on the amp are pushbutton and the IR controller has 21 chrome plated buttons to select all the available functions. Sit back! Relax! Let your fingers do the working!

• 1V output suits most amplifiers. • 6 metre IR control range. • 8 pairs of RCA sockets for source connection. • 3-pin mains socket for powering an accomp. amp. • Functional design (353 x 231 x 63mm) amp. • Compact IR controller (136 x 70 x 27mm). • Phono, tuner, CD, Auxiliary and tape monitor outputs. • Source selection LEDs. • Status LEDs. Cat K-4003

Shipping weight: 3.35kg Shipping size: 400 x 260 x 90mm

Wanda And Woam Wiv A... Walkabout Wadio



This portable radio kit puts the life back into AM reception! Using a cunning TRF circuitry system the original audio bandwidth transmitted by the station is largely maintained — AM comes alive! The project is inexpensive, uses a minimum of components and it's easy to build. Circuit provides an RF amplifier which delivers up to 120mV into 64 ohms to drive a pair of 32 ohm headphones. As a result the circuit draws less than 3mA — so the 1.5V AA power source is likely to last up to twelve months. It's incredible value. Weally!! Cat K-2720

Shipping Weight: 280g
Shipping Size: 63 x 132 x 185mm

As described in ETI

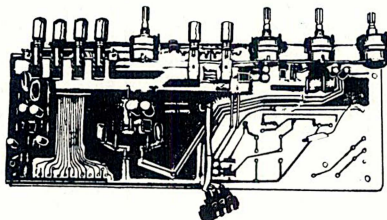
\$19.95 *

Stereo Control Unit

Use it as a stand alone Stereo Control Unit/Preamp, match it up to your existing power amp or one of our kits (K-3440/2). Either way you get a high quality stereo control unit at a fraction of commercial prices. The kit can easily be constructed by a novice and features the full range of controls, inputs and outputs! Cat K-3045

Specifications:
Rated Output: 1V RMS into 10k ohm
Sensitivity @ 1kHz —
Phono: 3.2mV RMS
Line: 178mV RMS
Phono Overload: 133mV RMS
Phono: -75dB ref. at 10mV RMS input
Line: -80dB ref. to 200mV RMS input
Frequency Response —
Line Inputs: 20Hz: -2.5dB
20kHz: -0.5dB
Phono Preamp: RIAA/IEC equalisation within ±2dB
(30Hz — 15kHz)

Tone Controls —
Bass: 60Hz ±12dB
Treble: 15kHz ±13dB
Stereo Separation —
Line: -70dB
Phono: -68dB
S/S&N @ 1kHz flat —



\$89.95

NEW FOR 88

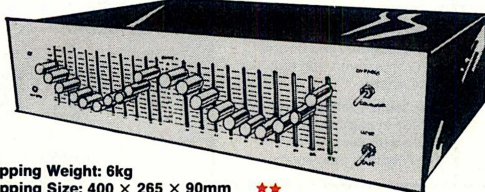
Graphic Equaliser

Get total control and flexibility with your sound system. With cut and boost of up to 13dB per channel you can make up for deficiencies in your listening area or sound source and even create special effects. (Big, booming bass: bewdy!) You can even make equalised tapes of those precious records. Features professional quality brushed aluminium front panel. Cat K-3500

Specifications:
Boost and cut: max. 13dB
Steps: 10 in each stereo channel (individually controllable).
Freq. response (Eq 'IN'):
10Hz to 10kHz
±0.25db (-1db @ 20kHz)

\$99

Shipping Weight: 6kg
Shipping Size: 400 x 265 x 90mm



As described in EA

Power Up Your Walkie! Walkman Amplifier

NEW FOR 88

The problem with trying to share your Walkie music is that you've got to dance cheek to cheek — that's alright sometimes, but it could give people the wrong impression!

With the Walkman Amplifier Kit all the gang can listen to your Walkie **WITHOUT** losing its portability. What's more, it's incredibly easy to build and you can have it up and running in a couple of hours. It's powered by an internal battery or a 12V DC plug pack. Cat K-2722
Mini short form kit, PCB and instruction only.

Specifications:
Test Conditions: 4 ohm load, +12V supply
400mV ptp input at 1kHz
Sensitivity: about 0.6V
Frequency Response (-3dB point): 40Hz to above 100kHz
Total Distortion: between 0.1 & 0.3%
Output Power (rms): 0.8W per channel
Cross-talk: 400mV at 1kHz injected in one channel with signal amplitude measured at 80dB on another channel
(Short Form Kit Only)

\$4.95 *

Shipping Weight: 50g

Music Generator

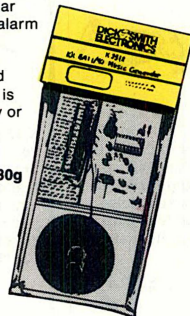
This is a great little kit for the beginner or the experimenter. It uses a very special IC which is pre-programmed to play two tunes.

It also has the popular 'ding dong' plus an alarm tone. A few more components and a printed circuit board complete with kit. It is intended for novelty or alarm applications.

Cat K-3512

Shipping Weight: 130g

\$7.95 *



Melody Door Bell

Your standard door bell? Booorrr — Rrrring! Here's the kit that even a beginner can have working in no-time! You can select between three instruments, any one of 16 melodies or a different melody each time. Imagine greeting the pest exterminator with 'Eency Weency Spider' or the butcher with 'Mary had a little lamb' or the shrink with 'Coo Coo Waltz'! Selection is easy, it's housed in a neat 50 x 90 x 150mm zippy box and the (2 x AA) batteries last 6 months or more! Cat K-2726

Shipping Weight: 500g



\$49.95 *

Wireless Stereo Headphone Link

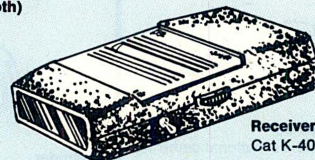
NEW FOR 88

There's nothing better than listening to your favourite music through headphones. You can have it as loud or soft as you like and there's no extraneous noise to interrupt. But then, there's always the cable! Too short? — You make it longer, no worries. No matter what you do with it though, somehow, someone will always trip over it. And you can be sure, there's nothing so painful as having your ears ripped off by a pair of tripped over headphones.

The DSE Stereo Infrared Headphone Transmitter/Receiver allows you to enjoy high quality sound reproduction on your headphones without messy cables! It solves the cable problem, allows you to listen to your favourite program while the rest of the family listens to theirs and it's ideal for anyone who's hard of hearing!

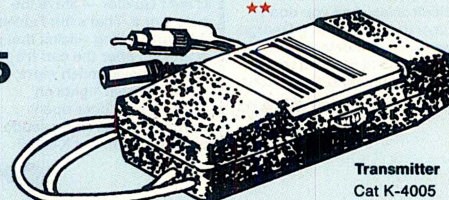
Both the Transmitter and Receiver are packaged in compact cases, so they're not going to clutter up the table, television or benchtop. Range is sufficient for a greater than average size room. Simply plug them in and point them towards one another — it's that easy! In a small room it will even work with reflections off the walls.

- Volume control on both transmitter and receiver
- Compact case — 68 x 136 x 26mm (Both)
- Screened aluminium front panel
- Great range
- Suits 32-100 ohm headphones or high efficiency speakers
- Transmitter power — 12V plug pack
- Receiver power — 9V battery
- FM stereo transmission



Receiver
Cat K-4006

ONLY \$49.95 each



Transmitter
Cat K-4005

As described in EA

20W Module

A general purpose amp as used in television, tape players, musical instruments, sound projectors, etc. A handy device for any hobbyist to add to his work bench. Uses discrete transistors for reliability which provide the ideal opportunity for the hobbyists to gain an understanding of how an audio amp works.

Cat K-3445
Supply voltage (power output): 35V (19W), 30V (12W), 20V (6.6W)
Shipping Weight: 1150g
Pack Size: 100 x 175mm

50W Module

Incredible reliable — yet very simple to build. The complete amplifier on one pcb — all you do is add a heatsink, connect to power... and go! Perfect for band use, PA, even as half a stereo pair (performance is that good!). Heatsink brackets included ready to bolt onto suitable main heatsink.

Cat K-3440
Power Output: 50W into 8 ohms
Supply Voltage: 33V @ 1.2A
Response: 5Hz to 50kHz (+0, -3dB)
Noise Level: -100dB Sensitivity: 50mV
Shipping Weight: 200g
Pack Size: 100 x 185mm

100W Module

As above, but double the output. Use two for stereo, or even use in bridge for double output! (Get up to a massive 200W output!) Specifications similar to above except for power (100W into 4 ohms) sensitivity (1V) and supply. (40-0-40V @ 2.4A). Cat K-3442

Shipping Weight: 270g
Carton Size: 150 x 110 x 60mm

Power Supply to suit above modules

The electronics to suit either two 50 watt modules or one 100 watt module, including speaker de-thump circuitry but not including transformer. Choose the transformer according to the number of modules and power output required.

Cat K-3438
Shipping Weight: 173g
Shipping Size: 160 x 90 x 30mm

Incredibly Easy To Build! Bookshelf Speakers

A low cost, compact loudspeaker system that's not only a cinch to build but performs like speakers that cost \$\$\$ more!

The kit uses the Magnavox 6MV nominal 15cm driver, is suitable matched with the Magnavox 3AC tweeter and designed with the universally highly-regarded Theile/Small parameters. With a second-order crossover network for both bass and tweeter and an enclosure volume of 16.7 litres: The result — superb performance!

Designed so that anyone, even with little or no wood-working experience, can end up with a professional looking speaker system finished in simulated woodgrain to match most modern furnishings. What's more, they sound even better than they look!

Woofer —
Size: 15cm with 38mm voice coil.
Free air resonance: 47Hz
Volume: 19.3 litres
Qts: 0.36

Tweeter —
Size: 81mm closed back construction
Frequency response: Beyond 18kHz

Crossover —
Roll Off: 12dB/octave
Elliptical Filter Resonance Notch: 1.3kHz Approx.

Complete System —
Frequency Response: 50Hz - 18KHz
Power Handling: Nominal 40 Watts. Will comfortably handle full power 100W per channel amplifier on normal program material.
Cat K-4000

\$249

There's a DSE store near you — wherever you are

For The First Time In Years — The Project You've Been Asking For...

A Low Cost Stereo Amplifier

These days everything's getting more sophisticated and more EXPENSIVE! Time and time again YOU'VE asked for it — "a low cost amp that provides reasonable power, good performance but doesn't have all the bells and whistles that command a high price."

Now it's Here!

A great little stereo amplifier that can be readily constructed by anyone with a modicum of experience building electronic projects. The Stereo 2000 amplifier delivers creditable performance and offers all the facilities required of any stereo amplifier used as the heart of a stereo system — and it does it at a remarkably LOW price!

Designed with the experimenter/hobbyist in mind, every opportunity has been taken to produce a kit with the greatest versatility and minimum price. You can mount it in your own case or our optional, superbly engineered steel case (Cat H-2900) which is tailored especially for this amp. We figured you'd have a suitable transformer floating around in your junk box so you'd save a few bucks there as well. However if you don't, our M-6672 is just right for the job.

Whichever way you look at it, the Stereo 2000 Amp is just what you've been looking for!



Cat K-4001 (Short Form Only)

Performance:

Continuous Output Power (RMS) — One Channel: 11.8W
Both Channels: 8.8W

Harmonic Distortion: <0.05%

Frequency Response — Phono Input: RIAA/IEC equalisation within $\pm 2\text{dB}$ (30Hz to 15kHz)
Line Level Inputs: -2dB @ 20Hz & 20kHz

Input Sensitivity (10W RMS 1kHz) — Phono 3.8mV
Overload Point (at 1kHz) 140mV
Line Inputs 200mV

Hum and Noise — Phono: -73dB

Line Inputs: -81dB

Tone Controls — $\pm 12\text{dB}$ at 60Hz
 $\pm 12\text{dB}$ at 15kHz

SHORT FORM KIT

Includes PCB,
all components
but no case or
transformer.

\$69

Features:

- Phono, Tuner, CD, Tape and Aux Inputs
- Stereo/Mono, Source/Tape selection
- Compact Design — Everything on one PCB (including push-button switches and inputs and outputs)
- Detent Type volume control
- Centre position detent on bass, treble & balance
- Includes professionally finished, silk screened and pre-punched front panel.
- Easy construction!

10-150 watt Speaker Protection Relay

The do-it-yourself speaker protection kit! A universal amplifier monitor/speaker protection device which can be used as a stand alone system with its own power supply or can be powered from the amplifier's own power supply.

The system has a delay to eliminate 'thumping' with power-up, detects DC offset levels from output stage, features hold-off delay after fault detection, can be used as a clipping detector, can be preset to indicate when maximum power level is reached and more!

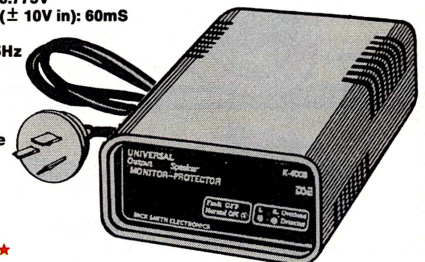
Performance:

- Minimum offset detection voltage: 0.775V
- Detection delay ($\pm 1\text{V}$ in) : 500ms ($\pm 10\text{V}$ in): 60ms
- Tripping frequency (8 ohm load) — below 1WRMS: 3.5Hz
— 6.25WRMS: 5Hz
— 50WRMS: 10Hz
— 225WRMS: 15Hz

- Initial turn-off delay: 3.5sec
- Minimum input comparison voltage (equivalent 10WRMS into 8 ohms): $\pm 13\text{V}$

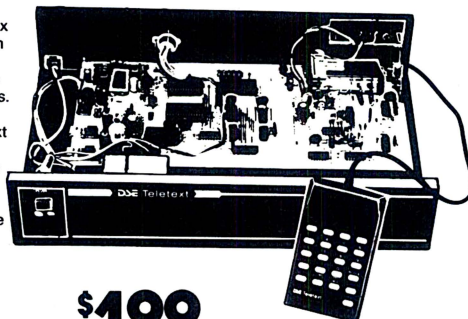
Cat K-4008

\$37⁹⁵



Teletext Decoder

Another money-saving kit from Dick Smith Electronics — bringing you the latest in technology at a fraction of the normal cost. Teletext — that mine of information given out free by a lot of TV stations — hasn't really taken off in Oz: mainly because of the cost of Teletext Televisions (most are around or over the big \$1000 mark!) It's a pity, really because there is so much information available — and the system will expand greatly when there is more acceptance. Teletext information is transmitted during the otherwise 'useless' period between each TV frame (the black line you see with colours flickering if the vertical hold is out!) All you need is this adaptor to pluck out the information, and hold it for display on the TV screen. You can have Teletext only, or a mix of Teletext and picture, or even news flashes and, perhaps most important of all, captions for the deaf on many programs. We've kept the price way, way down by designing this Teletext converter to be used in conjunction with a VCR (or the TV tuner above!). Check with your local TV station(s) to ensure Teletext or captions are being transmitted before commencing construction! Cat K-6315



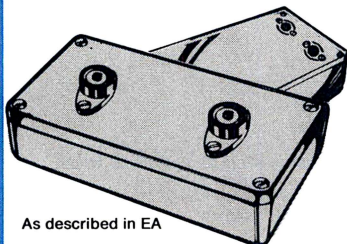
As described in EA

Shipping weight: 3.7kg

Shipping size: 400 x 265 x 95mm

\$199 ***

Poor TV signal area? Build the TV Masthead Amp (Mk2)



As described in EA

Don't put up with lousy TV (we can't do much about the content, but this should fix the pix!) Reduces or even eliminates snow and compensates for cable loss. Cannot be used in strong signal areas to amplify distant weak signals. Covers both UHF and VHF TV bands plus FM radio bands. Includes 240V supply in price. Cat K-3232

Shipping Weight: 1kg

Shipping Size: 270 x 165 x 95mm

\$29⁹⁵ **

AM Stereo Decoder

There's no need to buy a new receiver to enjoy stereo sound. DSE's AM Stereo Decoder Kit can be built right into many tuners for full stereo output. And you build it yourself and save \$\$\$! Features Motorola MC 18020P integrated circuit. Provides excellent stereo by taking the AM IF amp output, decoding the C-QUAM signal and providing left-right channel audio outputs. Cat K-3415

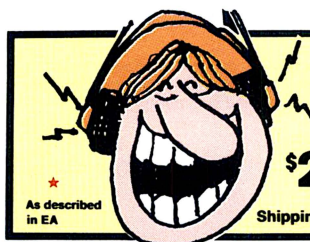
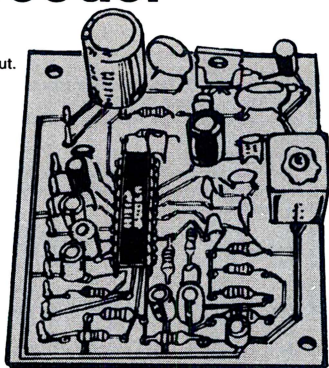
Best results are obtained using synthesized tuners.

Shipping Weight: 3.6kg

Shipping Size: 400 x 260 x 125mm

As described in EA

\$19⁹⁵ ***



As described in EA

Stereo Simulator

Wish those old video movies had modern stereo sound? This low-cost gadget turns almost any mono signal into amazingly good synthetic stereo! Cat K-3421

\$24⁹⁵

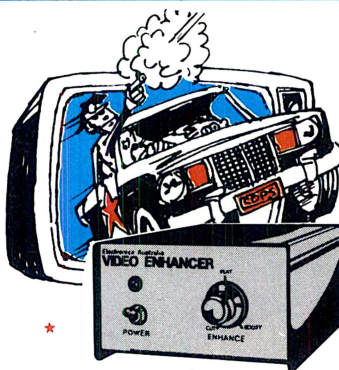
Shipping Weight: 525g Shipping Size: 185 x 135 x 75mm



\$37⁹⁵

Shipping Weight: 275g Shipping Size: 185 x 135 x 65mm

With this great little kit you can sound like a Dalek, Darth Vader, a Cylon, or any one of a dozen robotic spin-offs! A versatile unit, it may also be used for special effects on electric guitars and other musical equipment. Cat K-3509



Video Enhancer

If the sound of your VCR is crook what about the video! Especially when you're making copies of tapes (yes, the ones you shot yourself of course). Make sure you don't lose detail when dubbing: use the EA video enhancer. Very simple to use: all control is via one knob. And unlike most enhancers, you can cut as well as boost (ideal for softening harsh pictures). Cat K-3463

• 240 volt operated

Shipping Weight: 900g

As described in EA

\$47⁵⁰

UHF to VHF Converter

The old set still has a great picture, it seems like such a waste of money to throw it out just for the sake of one station. Now, there's no need!

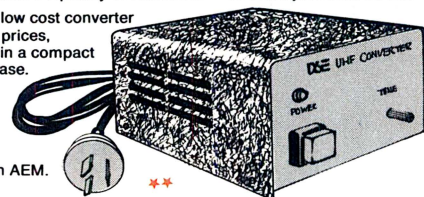
With the UHF Converter you can get UHF channels 28 to 63 (That means SBS) on your old set! What's more, the circuit goes together easily and there's no need for any alignment or adjustments — all you do is put it together and plug it in!

After investigating the possibilities we found the most practical and economic way to convert to UHF was to use a standard UHF tuner module which has been modified to have its output at one end of the low VHF intermediate frequency of 36.87MHz — so that's just what we did!

What we got, was an easy to build, low cost converter that saves heaps on new television prices, performs admirably and is housed in a compact 93mm x 40mm x 25mm all steel case.

What you get — is a huge saving!

Cat K-3236

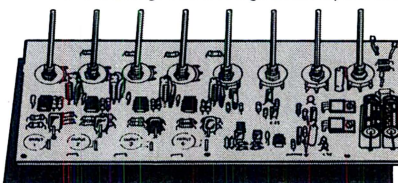


As described in AEM.

\$69⁹⁵ **

Mixer/Preamp Module

Perfect for band use — or any general purpose mixing application. 4 inputs allow virtually unlimited choices: guitar, mic, organ, line, inputs, etc. with each input fully adjustable for gain and impedance. Also includes bass, treble and "presence" control. Drives any of above amplifier modules directly, and uses same power supply. Cat K-3036



Shipping Weight: 175g

Package Size: 100 x 175mm

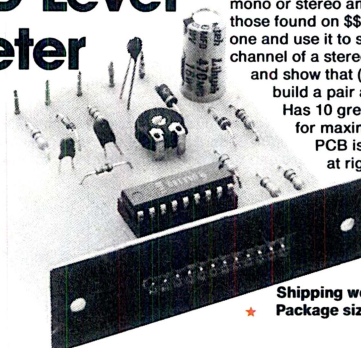
\$69⁹⁵ **

LED Level Meter

Here's the one the beginner can build — and add to a mono or stereo amplifier to give a level meter just like those found on \$\$\$ imported amplifiers! You can build one and use it to show either a mono amp, one channel of a stereo amp or sum the channel outputs and show that (instructions show how). Or you can build a pair and have a true stereo level meter. Has 10 green LEDs for display, two red LEDs for maximum power indication.

PCB is designed to have readout at right angles for easy mounting.

Requires 10-16V at around 50mA (usually taken direct from preamp supply). Cat K-3370



Shipping weight: 75g

Package size: 100 x 75mm

\$19⁹⁵

As described in EA.

Stereo Preamp

The amazingly versatile unit can be built as a magnetic cartridge preamp (for upgrading your stereo), a tape preamp or an auxiliary preamp with 40, 55 or 80dB gain. It is extremely simple: uses only one special IC and is very small, all parts fit on a PCB less than 65mm square. It does not need a special power supply as any reasonable power supply from 10 to 40V will do. Frequency response is well beyond 20kHz. Full instructions are supplied. Cat K-3427



Shipping Weight: 50g

Package Size: 140 x 100 x 20mm

\$13⁹⁵

As described in ETI.

Save by installing your own alarm... Save even more: Build Your Own Alarm!

At least the equivalent of commercial units costing \$\$\$\$ more! All the features you need for complete protection — perfect for home, office, factory, etc. Cat K-3424

- 6 instant & 2 delayed sectors
- Security key operation
- Inbuilt mains supply & battery back-up
- Siren driver, relay (bell) output
- And much more!

Complete kit including case and all electronics:

Shipping weight: 3.85kg
Carton size: 320 x 185 x 235mm

Back-up battery to suit:
12V 1.2Ah Gell Cell Cat S-3315

\$149

As described in EA

★ ★ ★

Alarm Sensors

All DSE kit alarms work with standard security sensors (reed switches, passive I/R, pressure mats, etc. etc).

Very latest IC technology Optical Motion Detector

Use as part of an alarm — or as a door minder, etc. A special optical IC actually detects movement by change in light level. Two modes — "guard" for sensing movement, and "search" for beam cutting operation. Self contained (battery operated). Cat K-2721

★ As described in EA

\$27⁹⁵

4 Sector Home Alarm

A "bare bones" alarm controller without the frills — and with a really low price tag. The perfect alarm for anyone wanting to "build it in". 4 sectors means a complete home or office system can be built around it. Ready to assemble, complete with on-board pcb connectors. Requires 12V DC @ 500mA. Cat K-3254

Shipping weight: 220g
Carton size: 173 x 65 x 102mm

\$34⁹⁵

★ As described in ETI

Transistor Assisted Ignition

Electronics Australia's high energy version of their previously incredibly popular kit. Now gives even better performance than before with circuit mods enabling high efficiency and stability, plus special radial fin design heatsink and die-cast box to dissipate unwanted heat. Ideal for use in all conventional ignition vehicles (doesn't work too well on diesels!) Cat K-3301

- Eliminates 'crossfire' problems on older 'CDI' circuits
- Dwell extension gives longer, hotter spark
- Compatible with modern electronic tachos.

\$19⁹⁵

★ As described in EA

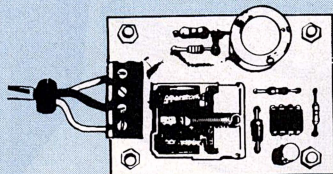
Ignition Killer

Nothing's more frustrating than a car that doesn't go. And imagine how much more frustrating a thief finds it! This ingenious circuit makes the ignition mis-behave — the theory is the thief will pinch someone else's car instead! Cat K-3255

Shipping weight: 320g
Carton size: 185 x 63 x 132mm

★ As described in EA

\$24⁹⁵



Car Alarm UHF Remote Switch

As described in S.C.

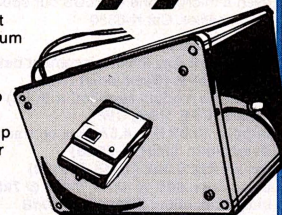
NEW FOR 88

\$99

The do-it-yourself way to car alarm convenience. A remote switch for your existing car alarm. Cumbersome keys are now a thing of the past with this easy to build kit idea.

The kit consists of a 304MHz receiver, decoder IC and output relay on a single PCB which is installed in a compact aluminium case.

The receiver in the DSE kit is small enough to fit on your keyring yet (unlike some other kits available) large enough to accommodate all the components easily. After installation you can remotely switch your existing car alarm from distances up to 40 metres. Kit options include momentary flasher indicator and peizo alarm or siren capability for alarm set. Cat K-3256



Deluxe Car Alarm

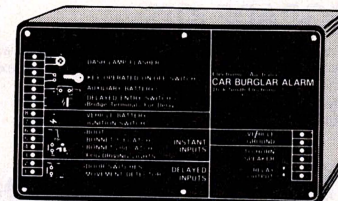
Superb protection for your car. One of the best alarms around — even better than most commercial units. Build this and your car shouldn't join the 70,000 or so stolen each year! Cat K-3252

- Delayed and instant alarm inputs
- Provision for back-up battery
- Siren output (doesn't rely on vehicle horn)

Shipping weight: 2kg
Carton size: 225 x 200 x 225mm

★ ★ As described in EA

\$99



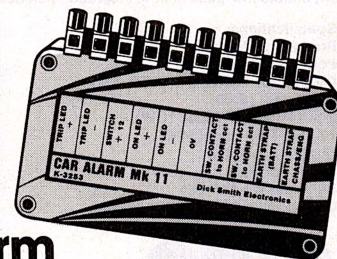
Car Alarm Mk II

An economy alarm for your car — with all the right features! Specially developed to minimise false triggering — but highly sensitive to any electrical use within vehicle (starter, brakes, internal lights, etc). Housed in a virtually waterproof die-cast box to minimise ingress of fumes, moisture, etc, with terminal block for easy connection to vehicle. Cat K-3253

Shipping weight: 650g
Carton size: 185 x 63 x 132mm

★ As described in ETI

\$29⁹⁵

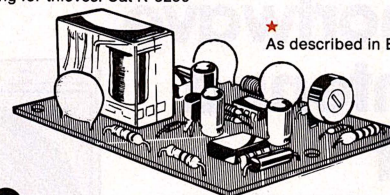


Budget Car Alarm

Low cost protection — that works! Stripped to the "bare bones" this single pcb alarm senses voltage drop in your car's electrical system. Hide it virtually anywhere you like — it's easy to install and even has a visual warning for thieves. Cat K-3250

Shipping weight: 75g
Bag size: 100 x 175mm

\$19⁹⁵



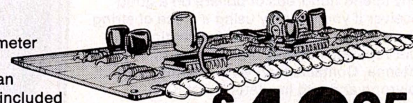
★ As described in ETI

LED Tacho

Don't spend a fortune buying a tachometer — build your own and save! Displays engine speed in an analogue form in an illuminated row of LED's. Instructions included — a great kit! Cat K-3240

Shipping weight: 160g
Carton size: 178 x 105 x 60mm

\$19⁹⁵

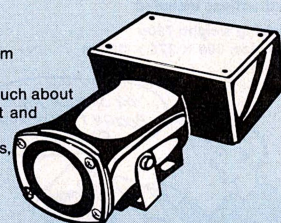


Bike Anti-Swipe

An effective Motorcycle Alarm designed for maximum security at a reasonable price!

Easy to build and install — even if you don't know much about electronics! Features LED alarm indicator, auto reset and provision for external sensor switches. Connect it to your existing horn or to a siren. Suits all 12V systems, can be engaged by toggle or keyswitch and it's mounted in a compact Zippy Box. Cat K-3249

ONLY \$19⁹⁵

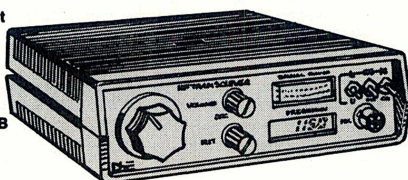


HF Amateur Transceiver

Not only do you build it yourself and save, you build it yourself and LEARN! How long has it been since you built a good piece of home brew? How many of those forgotten skills — soldering, component identification, alignment and so on — need sharpening? Build this HF transceiver! It will give you any 500kHz segment between 2 and 30MHz — with commercial quality specs to boot! Everything is included — case, silk-screened panel, all components, even a microphone — PLUS our special step-by-step instruction manual to make it just that much easier. Cat K-6330

Specifications:
Frequency: Any 500kHz segment between 2 and 30MHz (See below)
(80 metre module supplied with kit)
Modes: LSB, USB, CW
Supply: 13.8V DC, 4.5A max on transmit
Bandwidth: ±8kHz (-25dB)
Sensitivity: 0.3uV (10dB S+N/N)
Selectivity: 6dB @ 4kHz, 60dB @ 7kHz
Image rejection: better than 50dB
Power Output: 30W PEP, 15W CW
Harmonic suppression: better than 60dB
Transceiver Size: 175 × 210 × 55mm
Shipping Weight: 2.05kg
Carton Size: 213 × 295 × 96mm

\$369 ★★★
 As described in EA.



UPGRADE KITS:

Fit the upgrade kit you want to get the band you want! Each kit handles a 500kHz segment, more than covering the amateur bands with the exception of 10 metres (bottom 500kHz segment covered).

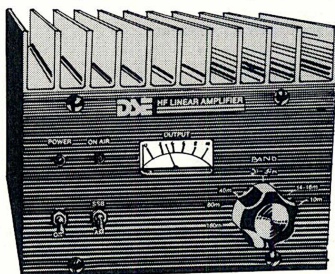
40 metres: Cat K-6332 **15 metres:** Cat K-6334
20 metres: Cat K-6333 **10 metres:** Cat K-6337

All one price \$1995

100W HF Linear Amplifier

Designed for the HF Transceiver (above) but also perfect for use with a huge range of QRP commercial gear, in the range of 3 to 15 watts output. Based on 2SC2290 RF power transistors, it gives around 10 to 14dB gain so up to 100W output could be obtained from a very modest input. The circuit is wide band and has only 3dB drop-off at 28MHz. A switchable low-pass filter is included. Includes carrier-operated Rx/Tx switching. Cat K-6331

Specifications:
Frequency: All amateur bands from 2-30MHz
Output Power: 100W, (CW & AM), 150W PEP (SSB)
Input Power: 5W max (CW), 10-15W PEP max (SSB)
Supply: 13.8V DC
3rd Order IMD: < -0.5dB
Shipping Weight: 2kg
Carton Size: 225 × 120 × 190mm



As described in EA

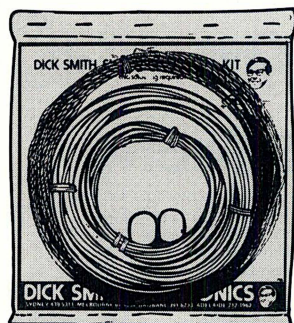
\$299 ★★★

Shortwave Antenna Kit

Why spend hundreds of dollars on a good receiver if you are only using a piece of string for an antenna? Get the best reception from your receiver with this high quality short wave antenna. Contains long wire antenna, lead-in, polyrope and egg insulators. Cat K-3490

- Designed especially for DSE by short wave expert
- Complete and ready to assemble
- Needs no soldering
- Instructions included

Shipping weight: 790g
Pack size: 300 × 375 × 30mm



\$2995 ★

DEGREE OF DIFFICULTY

- ★ Beginner
- ★★ Intermediate
- ★★★ Experienced!



Morse RTTY Decoder

Receiving and decoding Morse and Radioteletype is almost always interesting — the problem is that it ties-up your computer. At least, up until now it did.

This project is hooked up between the audio output of a receiver and a dot matrix printer, it will decode and print out most Morse or RTTY transmissions without using your computer.

With both narrow and wide filters for RTTY, a time detector/demodulator circuit and a digital section based on the Z80 microprocessor running at 4MHz. The design means, that in the case of RTTY, the original formatting of the transmitted text is preserved. The Morse decoding program self tracks from around 5WPM to more than 40WPM.

Connection to the printer is via DB25 connector (standard IBM printer cable) and power is supplied from a safe extra-low-voltage source. Includes pre-punched and screened case panels! Cat K-6339

\$169 ★★★

As described in AEM.

Shipping Weight: 800g



A Big Sting For Your Six Metre... 100 watt Booster Amp

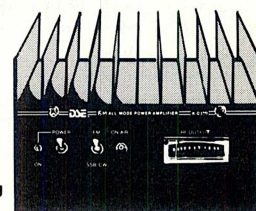
How's this? 100 watts from a tiny 6 watts input. The DSE 6M All-Mode Power Amplifier is straightforward to assemble and align, and it's compatible with low power portables to base stations of 10 watts or more output.

DX'ers all know that while you can get away with a modest rig there's just no substitute power! This great kit features carrier operated relay, over-voltage and transient protection, switchable between-syllable delay for SSB, relative output power metering, remote DC output... and more! Cat K-6349

Performance:
Amplification Mode —
Continuous Power Output: 120W CW
Saturated Power Output: 150W CW
Gain: 12 to 14dB
Modes: CW, AM, FM & SSB
Input VSWR: 1.5: 1
1dB Bandwidth: 50 to 54MHz
Harmonics: -63dB (2nd Harmonic)
Standby Mode —
Input VSWR: 1.1:1
Insertion Loss: 0.2dB

\$279 ★★★

Shipping Weight: 2kg
 As described in AEM.



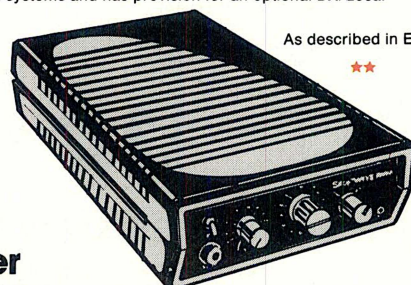
Nifty 3-Band Shortwave Radio Tunes You Into The World!

It's been a long time since anyone produced anything new in shortwave radio kits — here's one that will get you back to the nitty-gritty of construction techniques.

The Three Band Radio Receiver uses a single AM radio IC and gives you all the benefits of sophisticated design without using lots of components. With automatic gain control over a range of 86dB you'll get a clean signal right next to a transmitter or even thousands of kilometres away. It's ideally suited for mobile use and includes a noise suppression choke to minimise interference from ignition systems and has provision for an optional DX/Local switch. Cat K-6355

Frequency —
Band 1: 0.48-1.9MHz
Band 2: 2.15-7.7MHz
Band 3: 6.12-17.12MHz

\$8250



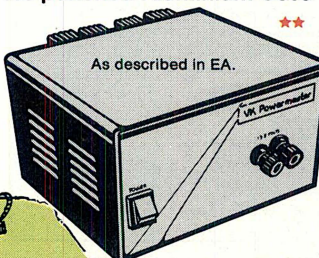
As described in EA.

VK Powermaster

Huge 25A peak with suitable transformer! That's power... and it's simple to build. For HF gear, linears, and so on, this one has the oomph you need. Short-form kit: you choose the transformer you want to suit the output required. Cat K-3448

M-2010 transformer gives 14A continuous
M-2000 transformer gives 6A continuous
Shipping Weight depends on transformer
Carton Size: 230 × 385 × 160mm

\$119 PLUS TRANSFORMER
 Pre-punched Aluminium Case



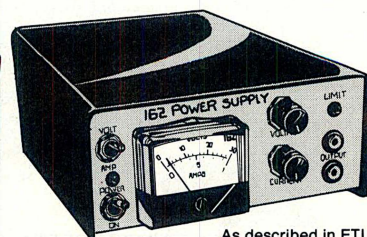
As described in EA.

Variable Power Supply: 30V/1A

Ideal for laboratory, amateur/experimenter or technician use. Adjustable up to 30 volts at up to 1A — very handy! Includes full metering and overload protection. Cat K-3475

Shipping weight: 2.3kg
Carton size: 213 × 293 × 96 mm

\$6995 ★★★



As described in ETI.

DSE Commander: 2m Amateur Transceiver

By far our most popular amateur kit: well over 2000 sold throughout Australia and New Zealand. Far better than buying a ready-built 2m rig: the specs more than match most commercial transceivers costing two, three and more times the price. And it covers the full 144 to 148MHz 2m amateur band, including standard repeater offsets ($\pm 600\text{kHz}$) built in. Again matching the style of our other amateur transceivers, the Commander comes complete with microphone, mobile mounting bracket and full construction manual. Nothing more to buy to get you onto 2m: just connect your antenna and 12V supply. Cat K-6308

Specifications:
Frequency: 144-148MHz in 10kHz steps (5kHz offset)
Mode of operation: FM
Supply req: 13.8V DC 2.5A (15W output)
Receiver: Dual Conversion Superhetrodyne
Sensitivity: 0.5uV for 12dB quieting
Selectivity: Better than 60dB at $\pm 25\text{kHz}$
Power output: 10W nom, 15W max
Complete with full repeater capability ($\pm 600\text{kHz}$)
Transceiver Size: 175 x 210 x 55mm
Shipping Weight: 1.6kg
Carton Size: 213 x 293 x 96mm



\$199

As described in EA.

100W VHF Linear Amplifier

Cut through the noise on 2 — and put out a whopping signal with this one. 100W continuous output (in fact, 120W with 15W in!) And from only 2W drive you'll still get a healthy 40W + out. Uses high quality co-ax relays for minimum noise and minimum loss. 13.8V DC required at 15A for maximum output. Cat K-6313

Shipping Weight: 2.1kg
Carton Size: 293 x 213 x 96mm

\$279

As described in EA.



Pre-punched front & rear panels plus heatsink.

2m GaAsFET Preamp

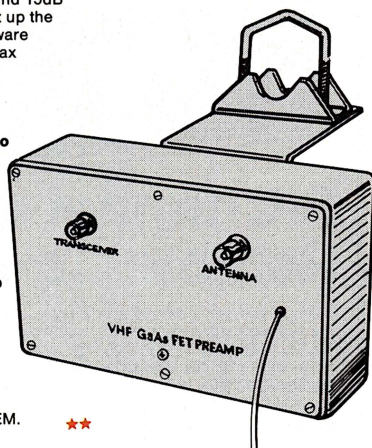
When you're scratching for that last femtovolt, a low-noise GaAsFET preamp could be just the answer. The big advantage (especially for satellite work) is the low noise, with around 15dB gain (at 146MHz). It's designed to mount up the stick — where it should be — with hardware supplied. Also supplied are low-loss co-ax relays, the diecast box... everything! Cat K-6311

Gain: Approx. 15dB at 146MHz
Device Noise: 1.5dB at 800MHz falling to under 1dB
Bandwidth: 144-148MHz
Insertion Loss: 0.6dB
DC Supply: 12 Volts
Connectors: BNC Type
Case: Pre-punched, virtually water-tight diecast aluminium
Mounting: Masthead bracket and clamp supplied

Shipping Weight: 1.2kg
Carton Size: 267 x 160 x 90mm

\$99

As described in AEM.



DSE Explorer 70cm (UHF) Amateur Transceiver

The original — and still one of the most popular kits. 70cm is less crowded — there are less mugs and yahoos — so many amateurs prefer to work the UHF band in peace. The DSE Explorer is the perfect, low cost way to do it. And another big advantage of this kit is it really teaches you to be a good constructor: UHF is not at all kind to sloppy work so if you want the kit to give optimum performance, your workmanship has to be pretty good. Cat K-6300

Specifications:
Frequency: 438.025-439MHz in 25kHz steps
No of channels: 40
Mode of operation: FM
Supply req: 13.8V DC 2A (5W output)
Receiver: Dual Conversion Superhetrodyne
Sensitivity: 0.4uV for 20dB quieting
Selectivity: -6dB 7.5kHz; -60dB 15kHz
Adj. chan rejection: Better than 80dB
Power output: 5W (typical)
Transceiver size: 175 x 210 x 55mm
Shipping Weight: 1.5kg
Carton Size: 213 x 293 x 96mm

As described in EA.

\$199



80Ch. Explorer Upgrade Kit

More channels for the Explorer UHF transceiver! This simple circuitry will give your DSE Explorer extended frequencies and adds 40 channels in the 439 to 440MHz region. Cat K-6301

As described in EA.

\$5.95

**

That Professional Finish

Give your DSE Explorer that professional look! This kit supplies you with a new look pre-punched front panel to accommodate an S-meter and a repeater switch PLUS you get the circuitry to drive the S-meter. Great idea! Cat K-6302

\$9.95

As described in EA.

70cm GaAsFET Preamp

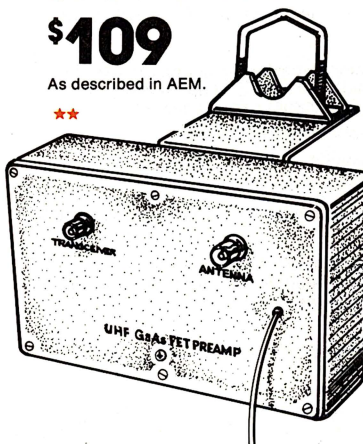
Like its 2m brother, the UHF GaAsFET preamp will pull in signals you didn't even know were there! Wide bandwidth and low noise (60MHz; 1.5dB typ) ensure optimum performance with receivers or transceivers. Handles up to 100W CW switching — designed for masthead use (full mounting kit included). Requires only 12V DC @ 400mA. Cat K-6309

Gain: Approx. 13dB at 438MHz
Device Noise: 1.5dB (Typical)
Bandwidth: 420-480MHz
Insertion Loss: 0.6dB
DC Supply: 12 Volts
Connectors: BNC Type
Case: Pre-punched diecast aluminium
Mounting: Masthead bracket and clamp supplied

Shipping Weight: 1.25kg
Carton Size: 160 x 267 x 90mm

\$109

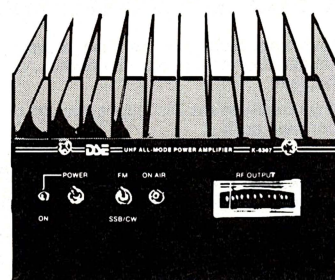
As described in AEM.



UHF All Mode Power Amplifier

50 watts out from just 2 watts of drive? Sounds too good to be true! 14dB gain with a 10MHz bandwidth — and you can internally adjust the centre frequency anywhere from 430-480MHz. All harmonics and spurs are at least -60dB. Includes carrier detect switching with coax relays for minimum noise and loss. Input SWR typically less than 1.2:1 and insertion loss (bypass) less than 0.9dB. Cat K-6307

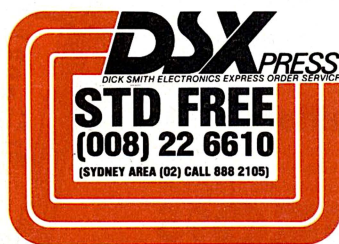
Shipping Weight: 1.5kg
Carton Size: 293 x 213 x 96mm



Pre-punched front & rear panels plus heatsink

As described in AEM.

\$199



ORDER BY PHONE

Bipolar UHF Preamp

Based on BR91, ultra-small board fits inside transceiver or receiver. 2dB or better noise figure, bandwidth 400-500MHz. Cat K-6306

Shipping Weight: 60g
Pack Size: 100 x 175mm

As described in ETI.

\$12.95

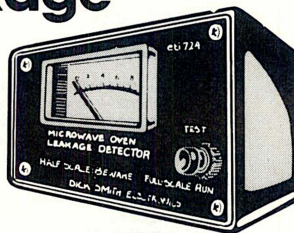


KITS

Microwave Leakage Detector

Microwave ovens are fantastic — but are they completely safe? Yours could be leaking dangerous radiation! Check it out with this handy meter. No batteries required. Cat K-3095 ★

Shipping weight: 152g
Carton Size: 175 x 105 x 60mm **\$12⁹⁵**

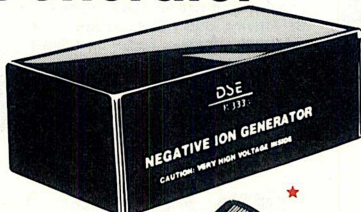


Negative Ion Generator

Many people believe negative ions are good for you! We're not sure — it could be a placebo effect! Build one of these and you be the judge. It's a fraction of the price of commercial units — but includes all parts required, including the important ioniser needles. Cat K-3333

Shipping weight: 550g
Carton size: 267 x 90 x 160mm

\$24⁹⁵

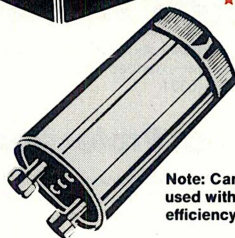


Fluoro Starter

Do your fluorescent lights go blink, blink, blinkety blink when you switch them on? This substitute electronic starter solves that problem and gives a smooth rapid start EVERY time you switch on. And all the parts are housed in a standard starter case! Far outlasts conventional starters as well as prolonging tube life. Cat K-3082 ★

Shipping weight: 54g
Carton size: 200 x 90 x 25mm

\$6⁹⁵



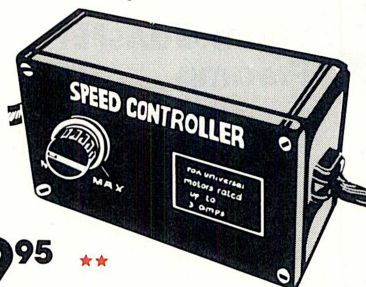
Note: Cannot be used with high efficiency tubes.

Speed Controller

A completely new circuit offering unbelievably smooth control and torque — even at very low rpm. Yes, it's even better than the previous model! New design includes 'in line' plugs and sockets for extra convenience. Suits virtually all 'universal' (brush type) motors. Cat K-3084

Shipping weight: 730g
Carton size: 190 x 70 x 130mm

\$29⁹⁵ ★★



It's here . . .

The Discolight!

Move over, Musicolor: here is the Discolight! It's Silicon Chip's latest design which makes all previous 'colour organs', 'chasers', 'strobes' and similar devices quite obsolete.

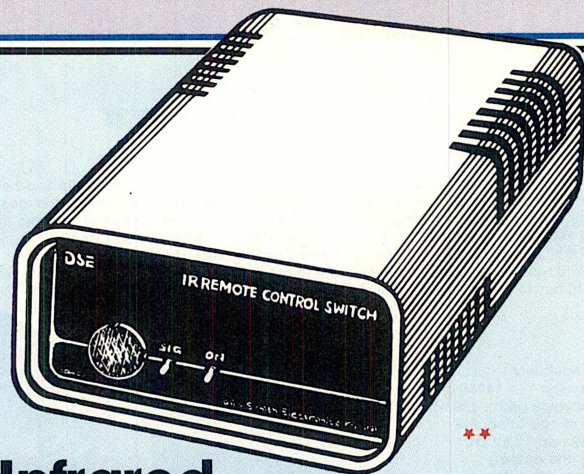
Why? Because the Discolight does all of these — and more! Here's what it will do for your next party:

- Convert audio direct from an amplifier's speaker terminals (in parallel with speaker), or direct from its own internal microphone, to driver four channels or bands of coloured lights (up to 600W each channel).
- Forward, reverse or auto-reversing chaser patterns
- Simultaneous strobe on all four channels
- Alternating pairs of channels flashing
- Music modulation or internal oscillator available on chaser, strobe and alternate modes.

. . . and so much more! In short, it's the **complete** lighting control centre for a huge variety of users from the home party, through amateur and professional stage work, sound and lighting installers for TV stations, theatres, etc — right up to (and including!) discos, dance halls, clubs, etc etc etc.

If you think we're raving about the new Discolight . . . you're absolutely right! Cat K-3150

\$165 ★★



Infrared 240 volt Controller

How many times have you wanted to switch a power point 'ON' or 'OFF' when it's across the room? Now you can switch any appliance virtually by pointing your finger! With this fantastic Infrared Remote Control Switch, you can switch on the TC, lamp, radio or many mains appliances without moving from the comfort of your bed or chair. The transmitter is housed in specially designed case about the size of a matchbox — so it's easy to carry in your pocket or clip to your shirt or belt. It'll operate up to 12 metres from the switch and it's specially designed for minimum interference. Cat K-3428

Shipping weight: 720g
Carton size: 267 x 90 x 160mm

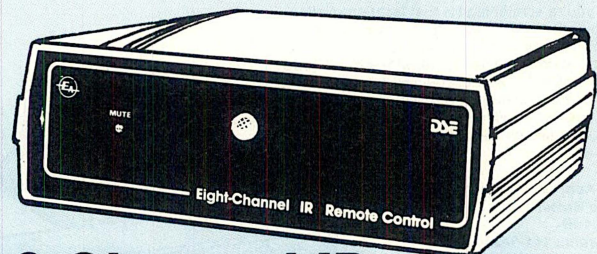
\$59⁹⁵

Spare Transmitter for above: ★

Just in case you misplace one — or so someone else can have control! Same transmitter as is included in main kit. Cat K-3429

\$9⁹⁵

Shipping weight: 50g
Bag size: 100 x 175mm



8-Channel IR Remote Controller

Taking it easy has never been so easy! Just think about the possibilities — remote control for your TV, CD, VCR, model railway or even mains powered appliances such as lamps, alarms, heaters, the coffee percolator... almost anything!

Build yourself one of the most convenient, labour saving kits we've ever seen. This remote control unit can control up to 8 functions plus mute and Up/Down! What's more, it allows you to customer build the kit to suit your own specific application — construct with all functions or just those required. Front panels are screened on both transmitter and receiver for a professional looking finish.

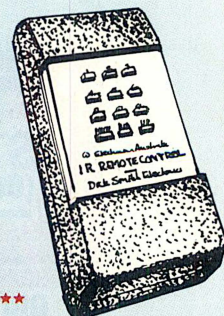
Receiver Cat K-3434

\$169

IR Transmitter

For use in conjunction with the IR Receiver (K-3434). Housed in sturdy plastic case with pre-punched and screened panel and 12 function buttons. Cat K-3433

\$59⁹⁵ ★★



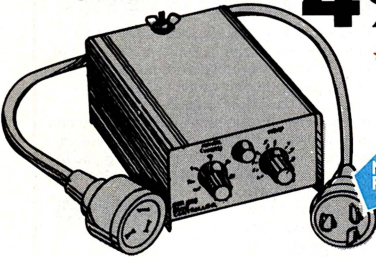
Soldering Iron Temperature Controller

One iron can do ALL your work! What's more — it can be your existing soldering iron. At last, there's an inexpensive way to have a fully regulated, adjustable temperature control soldering system.

Think about it — no more cooked components, no more tracks lifting off pcb's less chance of dry joints — in short, less construction time and a more reliable product! Look at these features. Cat K-3479

- 240 volt mains operated
- Selectable 20-70 watts
- Constant, adjustable temperature
- Range can be adjusted to suit high power irons
- Calibrated temperature control
- Damage resistant metal case

\$49⁹⁵



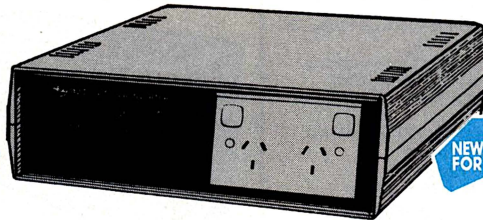
Power Mains Appliance Off A Car Battery! 12-230V Inverter

A compact 300VA 12/230V inverter that's ideal for farms, campsites, building sites, etc. — anywhere remote mains power is required.

The Auto-Start feature means that — unlike most inverters — you use virtually NO power until an appliance is switched on. Comes with double general-purpose mains outlet and durable plastic case. Cat K-3478

Nominal Supply Voltage: 12V DC
Output Voltage: Up to 240 (RMS)
Frequency: 50Hz crystal locked
Maximum Load: 300VA
Current Listing: 30A (primary)

\$329



NiCad F-A-S-T Charger

It's just a fact of life — whenever you NEED them, the batteries are flat! With the ETI NiCad Fast Charger you can get NiCads to near rated capacity in a hurry. And it can't overcharge either!

NiCads not only tolerate a fast charge but benefit from it in terms of recovery and apparent capacity. If you use NiCads at all — you'll find this project a great time saver.

- 2.4A constant current
- Timer controlled
- Charges up to 12 volts of cells in series
- 250mAh (7 min) — 4Ah (2hrs) charge rates
- Mains powered

Cat K-3476

\$99⁹⁵



GET YOUR TEETH INTO A REAL PROJECT!

Imagine Being Able To Say... "I built it myself!"

A fully 'AT' compatible computer and it can be yours for hundreds of \$\$\$ (thousands even) less than an off-the-shelf models!

This is the computer you thought you'd never afford to own, but when you Build-It-Yourself... you can!

WHAT ABOUT FEATURES?

There's no compromise. The DSE Baby 'AT' has all the features you'd want and more... at work or home. Take a look!

- Up to 1Mb RAM
- Up to 3 x 1.2 Floppy or hard disks
- Selectable 6, 8, 10 & 12MHz clock speeds
- 80286 CPU
- 8 expansion slots
- Massive 200 watt power supply
- Fully 'AT' Compatible
- Modular Construction — everything fits without hassles or soldering!
- All PCB's are pre-assembled and tested!
- Full 12 months warranty on all components
- Heavy duty steel case with flip-top lid
- Custom build it according to your needs and finances

IT'S EASY TO BUILD

Because the DSE Baby 'AT' is designed as a modular computer system, everything fits together — holes line up, PCB's just slot in and all connecting plugs and cables are supplied. So, unlike other kit computers on the market, it's a cinch to build... without soldering, drilling, etc.

What's more, all modules come with comprehensive, easy to follow instructions — there's no guess-work involved! It's easy and you'll learn about computers as you go.

There's only one way to get yourself more computer than the DSE Baby 'AT' — and that's to pay a lot, lot more!

Basic System

What you want, as you want it...

Baby 'AT' Motherboard: With 8 expansion slots, back-up battery, speaker, manual and all IC's except RAM. Cat X-1000

Heavy Duty Case: Just 430mm square steel case covered in quality bone crinkle finish. It's predrilled and complete with hinged lid. Cat X-1005

200W Power Supply: More than enough for full expansion. Cat X-1010

Keyboard: 84 Key 'IBM' format. Cat X-3820

Disk Controllers: Floppy Controller — Up to 2 x 360K or 1.2Mb drives. Cat X-2014

Disk Drive: 1.2 Floppy Disk Drive. Complete with cables. Cat X-2200

Graphics/Parallel Printer Card: CGA & Parallel printer. Cat X-2010

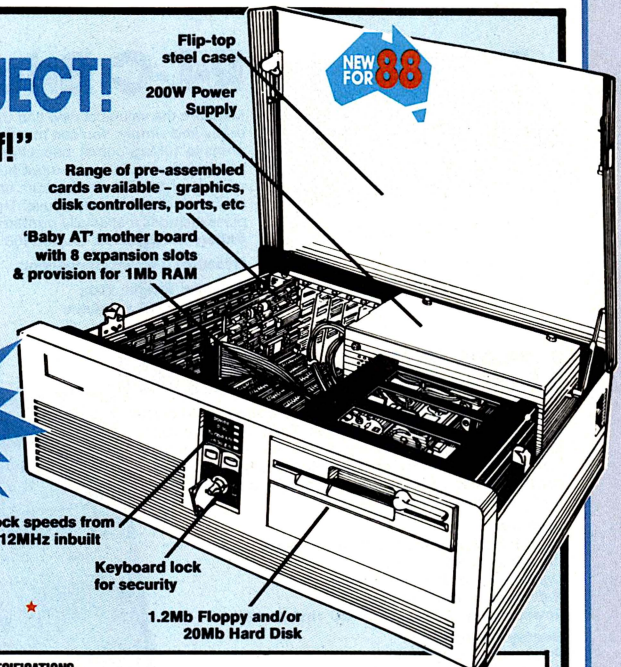
256K Memory: Fast (120ns) top quality 41256 RAM chips. 9 required per 256K bank. Cat Z-9313

Detailed system instruction manual. Cat X-1004

Just add the monitor of your choice

BASIC SYSTEM ONLY

\$4801⁹⁵



IBM 'AT' COMPATIBLE: 80286 CPU

4 clock speeds from 6 to 12MHz inbuilt

Keyboard lock for security

1.2Mb Floppy and/or 20Mb Hard Disk

SPECIFICATIONS:

Mother Board:

- 80286 CPU
- 6, 8, 10 & 12MHz speed (selectable)
- Provision for 256K, 512K, 640K or 1024K RAM on board
- CHIPSet technology & ICs
- 7 Channel DMA
- 16 Level Interrupt
- Award BIOS (fully licensed)
- Real time clock on board (battery b/u)
- 8 Input/Output Slots (6 with 62 and 36 pin connector, 2 with 62 only)
- CMOS Memory to Maintain System Configuration
- IBM PC/AT compatible
- All LSI & RAM IC's fully socketed
- 80287 Co-processor socket provided

Hard/Floppy Disk Controller:

- Controls 1 or 2 hard disks
- Ind. standard ST-506/ST-412 Interface
- Up to 2048 cylinders
- Up to 16 read/write heads
- Data transfer rate 5Mb/s
- Controls 1 or 2 floppy disk drives
- Interface similar to FD-55F minifloppy
- Double density 320/360Kb or 150/180Kb
- High density 1.2Mb
- Rated to work up to 12MHz

Graphics Cards:

— MGA, CGA & EGA available

Ports:

- Keyboard port on motherboard
- Parallel, serial & game ports on interface
- Monitor port on appropriate graphics card

ALSO AVAILABLE

Plug-In Cards: MGA & Parallel Printer. Cat X-8141 \$149

EGA with Hercules compatibility. Cat X-2013 \$399

Serial/Parallel/Games Port Card. Cat X-2012 \$139

101 Key Expanded Keyboard: With direction keys and extra function keys.

Cat X-3821 \$149

Hard/Floppy Controller: Handles 2 of each Hard/Floppy drives.

Cat X-2008 \$249

20Mb Hard Disk: Complete with cables. Cat X-2203 \$399

Function Generator With Digital Readout



As seen in EA

An essential piece of test and design gear for all hobbyists, amateurs, service technicians, engineers... produces sine, triangle and square waves from below 20Hz to 170kHz with a very wide range of output levels too. An ideal companion to our other build-it-yourself test equipment. Cat K-3520

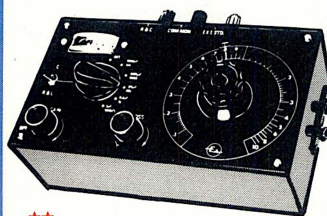
CHECK THESE FEATURES:

- Frequency range from below 20Hz to 170kHz in three ranges.
- Continuously variable output level from 3mV to 2.5V peak
- 600 ohms (nominal) output impedance.
- Sine, triangle and square waveforms.

- Sine wave distortion of less than 0.7% at 1kHz: 1% at 10kHz and 2% at 100kHz.
- Triangle wave linearity better than 1% at 1kHz.
- Square wave rise-time of 0.4us (6V/us at maximum output level).
- Negligible overshoot, droop or ringing.
- Readout accuracy $\pm 2\%$ ± 1 digit.
- Amplitude stability better than 0.1dB on all ranges.
- Power consumption of 7W at 240V AC.
- Pre-punched front panel

Shipping Weight: 1.2Kg
Shipping Size: 245 x 72 x 220mm

\$99



As described in EA

\$49⁹⁵

R-L-C Bridge

Measure the values of new and used components easily and simply. You can measure resistance, (10 ohms to 10Meg-ohms), capacitance (10pF to 10uF) and inductance (down to a few hundred microhenries). The RLC bridge does more than a multimeter, and is easy to use. The complete kit of parts includes a specially printed front panel. **Battery not supplied.** Cat K-3468

Measures unknown components

Shipping Weight: 700g
Size: 267 x 90 x 160mm

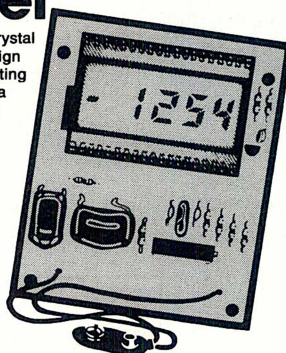
LCD Meter Panel

A versatile accurate panel meter using a large liquid crystal display for low power consumption. The PC board design allows for maximum flexibility to cater for varied mounting arrangements. The low cost makes it ideally suited as a readout device on many projects, at both amateur and professional level. Cat K-3450

Features:

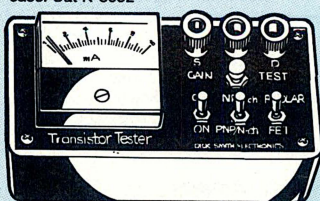
- Input impedance: greater than 10^{12} ohms
- Input bias current: ± 2 pA
- Conversion method: dual slope
- Reference: internal 100ppm
- Power supply: ± 5 V to ± 15 V DC 1mA @ ± 5 V
- Display 3 1/2 digit LCD
- Full scale reading: 200mV
- Accuracy: less than 1 digit
- Resolution: 100uV
- Polarity: automatic

\$39⁹⁵



Speedy fault finding Transistor Tester

Not just another Transistor Tester! This one tests bipolar transistors, diodes, F.E.T.'s and even S.C.R.'s and P.U.T.'s. This practical low-cost test instrument is simple enough to be built by a beginner and then provide him with a valuable piece of test equipment. You can get experience in building, then use it to learn about the operation of semiconductors, or use it for more serious checking. Ideal for the beginner and serviceman alike, or in schools. Battery operated and supplied with one of our 50mm meters in a deluxe Zippy case. Cat K-3052



Requires 9V battery Cat S-3106 \$1.85 extra
Pre-punched front panel.

Shipping Weight: 350g
Shipping Size: 185 x 63 x 132mm

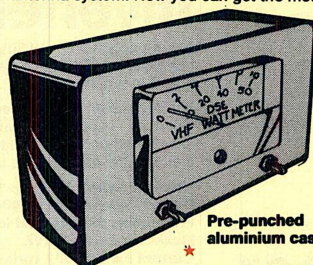
\$29⁹⁵

As described in EA

VHF Wattmeter

How efficient is your system? Here's an inexpensive way to measure your VHF power output AND the efficiency of your antenna system. Now you can get the most

out of your equipment! It's relatively easy to assemble and also has a switch so you can measure the reflected power back from your antenna. Comes with attractive black anodised case and everything you need to complete the project. Cat K-6316



Pre-punched aluminium case

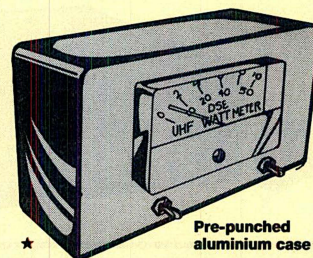
Shipping Weight: 740g
Shipping Size: 267 x 90 x 160mm

Specifications:
Usable Frequency Range: 144-148MHz
Maximum Power: 150 watts
Ranges: 0-150 watts
0-30 watts
Accuracy: $\pm 10\%$
Impedance: 50 ohms
Directivity: > 20 dB
Insertion Loss: < 0.1 dB
Connectors: SO239
Pre-punched aluminium case

\$39⁹⁵

UHF Wattmeter

Now there's an inexpensive way to check you UHF power output and the efficiency of your antenna system! Here's an easy to assemble wattmeter which not only measures the power output of your transceiver but also has a switch so you can measure the reflected power back from your antenna. The kit contains everything you'll need and can be assembled in next to no time! Cat K-6312



Pre-punched aluminium case

Shipping Weight: 720g
Shipping Size: 267 x 90 x 60mm

Specifications:
Accuracy: $\pm 10\%$
Impedance: 50 ohms
Directivity: > 20 dB
Insertion loss: < 0.1 dB
Usable Frequency Range: 430-480MHz
Maximum Power: 50 watts
Ranges: 0-10 watts 0-50 watts

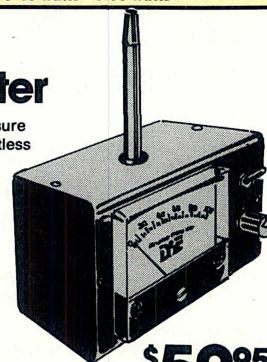
\$39⁹⁵

Catch the bug! RF Field Strength Meter

Amateurs, antenna installers, even security agents: measure relative RF strength quickly and easily with this kit. Countless applications: antenna radiation pattern checking, cable losses and leakage, checking transmitter operation... even "sweeping" for bugs! With a bandwidth of about 1GHz it's sure to find just about any source of RF. With a directional antenna you could use for fox hunting, pirate tracking, etc. Cat K-6321

Specifications:
Bandwidth: 3 to 1000MHz
Gain: Internal amplifier gain 100 times
Output: Meter shows relative field strengths
Pre-punched aluminium case

Shipping Weight: 784g
Shipping Size: 270 x 160 x 90mm



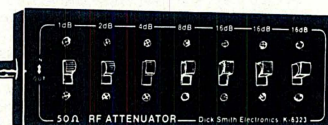
As described in AEM.

\$59⁹⁵

RF Attenuator Box

Amateurs know just how valuable a good attenuator is... and how expensive they normally are! Here's value: up to 63dB attenuation (in 1dB steps from 0dB) from 50 to 500MHz — and it's \$\$\$ less than equivalent commercial units. Just think of the uses:

- Antenna gain measurement
- Fox hunts and radio direction finding
- Receiver/transmitter matching
- And countless other amateur/CB/professional applications.
- Pre-punched and screened front panel.



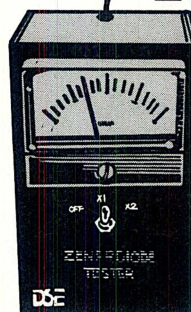
Rated at 1/2 watt, with a 50 ohms input impedance. Connectors are standard BNC, so it is perfect for "in line" use. Cat K-6323

Shipping Weight: 225g
Unit Size: 195 x 60 x 40mm

\$69⁹⁵

As described in AEM.

Zener Diode Tester



Pretty specialised — but oh so handy! Essential for the service bench, perfect for the hobbyist too. Now you have no worries about all those diodes with markings rubbed off — is it a Zener or is it a signal diode? You'll get a direct readout — in volts — of the Zener voltage of 400mW and 1W Zeners from 3.3 to 50 volts (2 ranges). If you're the type with a well-stocked junk box mostly full of unidentified junk, this is for you. Cat K-3051

Pre-punched front panel

\$26⁹⁵

As described in ETI.

TV Pattern Generator

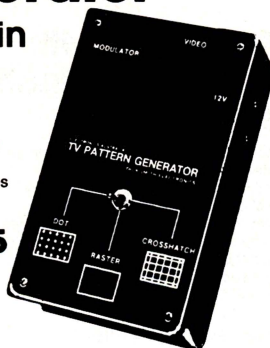
A build-it-yourself bargain for the serviceman

With just seven IC's you get three patterns: dot, crosshatch and blank raster. Not bad value, huh? An indispensable aid for the servicemen or hobbyist — and this one's small enough to carry around anywhere. Includes deluxe front panel and VHF modulator. Operates from plug-pack adaptor (9V DC). Cat K-3472

Shipping Weight: 260g
Shipping Size: 185 x 63 x 132mm

\$29⁹⁵

★★
As described in EA



TV Colour Bar & Pattern Generator

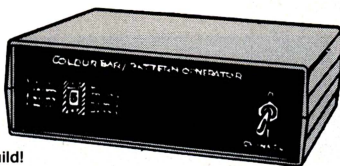
The serviceman's right hand man!

If you're in the trade, this has to be a cinch to build!

Portable, the pattern generator is powered by a 12 volt AC plug pack and provides 8 patterns — colour bars, red/white/black screen, cross-hatch, vertical/horizontal lines and dot pattern. Sure better value than ready made models! Cat K-3473

\$179

★★★



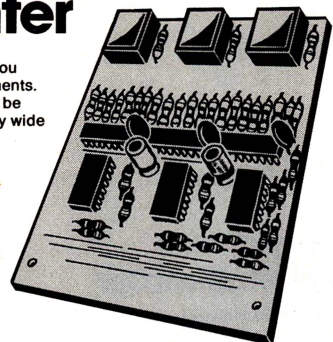
3 Digit Counter

The most versatile counter circuit around — you can use it with a minimum of external components. Designed for maximum flexibility (display can be removed for external mounting and with a very wide voltage 5-15V). Cat K-3451

- LED display
- Up to 2MHz counting speed
- Clock enable
- Wide power supply range
- Very comprehensive manual included!

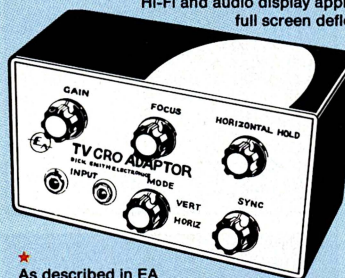
Shipping Weight: 107g
Shipping Size: 100 x 175mm bag

\$19⁹⁵



Turn your old TV into a CRO!

Got an old B&W TV gathering dust in the corner? Turn it into an audio CRO! That's right: this remarkable kit turns any surplus B&W (or even surplus colour) TV set into a 300kHz audio oscilloscope! It gives a good display at low frequencies, making it ideal for Hi-Fi and audio display applications. All it needs is 100mV to drive it to full screen deflection. The large screen size means that it gives a dramatic display: just think of the non-technical applications of such a device: promotions, Hi-Fi showrooms etc. If you can't afford a proper CRO — this could be the answer! Cat K-3060



Shipping Weight: 550g
Carton Size: 216 x 70 x 126mm

Yes, your own CRO for ONLY **\$34⁹⁵**

★
As described in EA

1GHz DFM for under \$300: complete!



★★★
As described in AEM

Yes, it's true. a 1GHz (that's 1000MHz just in case!) digital frequency counter with typical sensitivity of around 20mV — and even more, it's delightfully simple to build! Based on the very latest technology LSI chips, this outstanding design features specifications at least the equal of commercial units costing many times the price. And even more, it looks good — again, the equal of commercial units. The tried-and-tested twin pcb construction technique is used to virtually eliminate the chance of wiring errors — placing this kit firmly into the "hobbyist" category. You don't need an electronics degree to put it together! Cat K-3437

Features:

- Everything included — nothing extra to buy.
- 8 digit LED display
- Silk-screened pre-punched front and rear panels
- Housed in quality instrument case
- Mains power supply included
- 3 ranges cover 20Hz to 1000MHz

Specifications:

Ranges	Gating Time	Resolution	Input Impedance	Input Sensitivity
20Hz to 10MHz	1s	1Hz	1M//50pF	40mV (type <20mV)
20Hz to 80MHz	1s	10Hz	1M//50pF	40mV to 50MHz, 200mV above
30MHz to 1GHz	1.28s	100Hz	50 ohms	40mV to 50MHz, 20mV above

Readout Accuracy: \pm least significant digit, \pm timebase accuracy
Timebase Accuracy: ± 1 part per million for 0-40°C ambient temperature
Maximum Input: 5V RMS on 10 & 80MHz, 5V p-p 1GHz input (optional 10V)

Shipping Weight: 1.1kg
Shipping Size: 245 x 72 x 220mm

\$199

TV Field Strength Meter

Technicians... antenna installers... anyone dealing with FM/TV antenna installations or adjustments — it's just the kit you've always wanted! Solves one of the major problems with getting the best from any system by indicating the best antenna position.

Battery operated (with charging circuit) or it can be operated via external DC 9V to 14V. You can even use it to convert a video monitor into a TV set! Great for difficult antenna installations. Includes in-built audio monitor. Cat K-6329

\$199

★★★

Bands: 3

Frequency Coverage: (0-5) 46.25-102.25MHz
(5A,6-11) 138.25-216.25MHz
(UHF 21-69) 471.25-855.25MHz

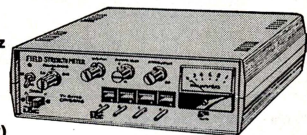
Channel Presets: 4

Gain Control: Manual Attenuator with scale
Antenna Impedance: 75 Ohm, Belling Lee connector
Video Output: Sync tip level 2.5V p-p. PAL
Input Power: 9-14V DC @ 500mA (Or internal battery)

* Battery not included

Size: 270 X 160 X 90mm

Shipping weight: 1kg



Sine & Square Wave Oscillator

Covers frequencies from 15Hz to 150kHz. This is one of the most useful pieces of equipment on the experimenter's bench. This simple design is easy to build and a great performer. Runs from a 9V battery. All parts are supplied including specially printed front panel, attractive 'Zippy' case and full instructions. Battery not included. Cat K-3469

Basic Specifications:
Frequency: 15Hz to 150kHz in 4 ranges
Distortion: <0.1% 20Hz to 15kHz

As described in EA.

\$44⁹⁵



★★

TEST EQUIPMENT

Budget Mini Multimeter

A great little multimeter for anyone starting out... or for anyone who is likely to knock their multimeter around a lot. For way under \$20 you get an 11 range, 2000ohm/volt pocket sized meter that's ideal for most of the general test work we all do. It's rugged and reliable, measures just 92 x 60 x 30mm and weights in at only 158g. Throw one in the tool box in case! Cat Q-1010

Ranges:
DCV: 10, 50, 250 & 1000
ACV: 10, 50, 250 & 1000
DC: 100mA
Res: x10, x1k
dB: -10 to +62
Sensitivity: DC and AC
2K ohm/volt



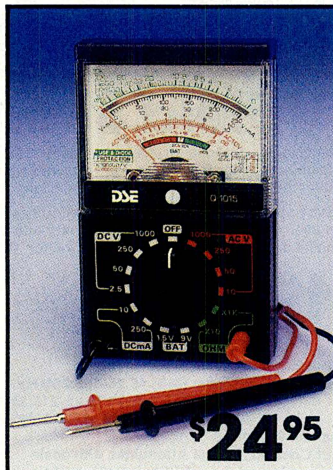
\$17⁹⁵

Looking for value? 18 Ranges including Battery Check

Small on size — but big on performance. As well as all the expected ranges, you'll also get a handy battery checker for 1.5 and 9 volt cells — save \$\$\$ on batteries! Featuring good sensitivity (10,000 ohms per volt) and carefully chosen ranges for maximum usefulness, this small meter is ideal for the hobbyist's bench or toolbox. Mirrored scale for minimising parallax errors, and deeply recessed plugs to ensure you don't get "zapped". Cat Q-1015

- Diode and fuse protection
- 18 ranges plus dB
- Shipping weight 150g
- Shipping size (blister pack): 105 x 190 x 35mm

Ranges:
DCV: 2.5, 50, 250, 1000
ACV: 10, 50, 250, 1000
DC: 10, 250mA
Res: x10, x1k
Batt check: 1.5 & 9V, replace/?/good
scales
dB: -20 to +62



\$24⁹⁵

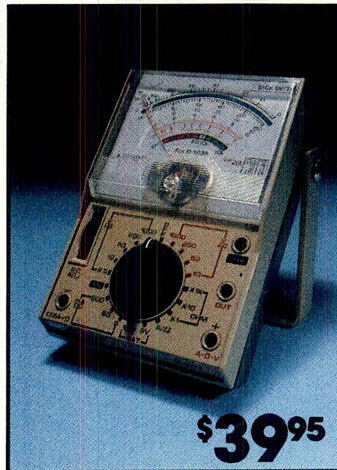
Multimeter with audible continuity tester

A compact, reliable multimeter with an added bonus: a built-in buzzer for continuity testing! Also has a battery checker PLUS 10A DC range — not normally found on low-priced multimeters! On top of this, you get a high sensitivity (20,000 ohms per volt) meter mirrored scale and large banana plugs for sure contact. Cat Q-1022

- Diode and fuse protection
- 19 ranges plus dB
- Built-in battery checker plus continuity checker

- Shipping weight: 450g
- Carton Size: 150 x 130 x 45mm
- Meter Size: 135 x 92 x 40mm
- Weight: 330g

Ranges:
DCV: 2.5, 10, 50, 250 & 1000
ACV: 10, 50, 250 & 1000
DC (mA): 5, 50, 500 & 1A
Res: x1, x10, x1k
Batt: 1.5V, 9V
Continuity
dB: -8 to +62



\$39⁹⁵

A two-in-one Multimeter & Logic Tester

Virtually two instruments in one! It's perfect for digital circuit troubleshooting because as well as normal multimeter functions it also has a built-in logic tester! Three LEDs give 'HIGH', 'LOW' and 'PULSE' states of logic circuits. 18 voltage, current and resistance ranges, with 20K ohm/V sensitivity DC and 8K ohm/V AC. Shielded movement is unaffected by external magnetic fields. The ideal serviceman's multimeter. Cat Q-1026

- Built-in Logic Tester
- 20 Ranges
- Diode & Fuse Protection

- Carton Size: 150 x 130 x 50mm
- Shipping Weight: 336
- Meter Size: 140 x 92 x 30mm
- Weight: 240g

Ranges:
DCV: 0.3, 3, 12, 60, 300, 1200
ACV: 6, 30, 120, 300, 1200
DC: 0.6, 3, 30, 300mA
Res: x1, x10, x1k, x10k
dB: -10 to +63
Logic: (test 5V) Lo - 1.5V Hi - 3V
Pulse -3.3MHz



\$49⁹⁵

Multimeter Replacement Lead Sets

Always losing your multimeter leads? Join the club! And shoving a bit of wire into the hole is a little dangerous... Here's the solution: a replacement lead set. 900mm long multistrand leads, colour coded red and black, with standard "tip" ends (100mm long probes & 20mm long points) and 1.5mm multimeter terminal points the other (as used on our Q-1010 and many other multimeters). Buy a couple of sets... just in case! Cat W-4504

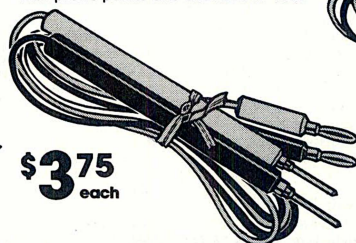
\$3⁷⁵ each



"Banana" Plug Multimeter Lead Sets

Similar to previous multimeter lead set, but instead of the fine point these have standard 4mm banana plugs — as used on most modern multimeters including digitals. And the 4mm banana plugs also fit standard terminals as used on our Q-1230 bench meters and many other test instruments. So now you can get a spare set of multimeter leads AND a spare set of leads for all your other test gear. Colour coded red and black leads, 900mm long with probe points one end. Cat W-4508

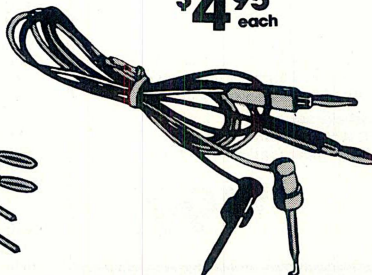
\$3⁷⁵ each



IC Multimeter Test Leads

The best of both worlds: standard 4mm multimeter plugs one end, but on the other they have insulated IC clips. A "must" for anyone working with IC's (or any other circuits). Allows you to "hook on" and leave hands free for adjustments, other tests, etc. Colour coded red and black, 900mm long leads. Cat W-4509

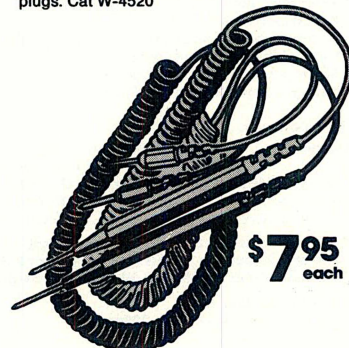
\$4⁹⁵ each



Coiled Test Leads Self Retracting

You know the problem of meter leads cluttering up the bench? It won't happen with these leads: they're coiled and return to the coiled shape after being extended. A red and black pair with 1.5mm meter tip plugs. Cat W-4520

\$7⁹⁵ each



TEST EQUIPMENT

Electronic FET VOM Reads P-P & RMS!

Very few multimeters can read peak-to-peak voltages: this one can! And even more — because it's electronic, you can adjust the pointer to centre scale for nulling. That's versatile! This extra rugged meter is professional quality: ideal for the service bench or the field — but it's price is more for the hobbyists. And with a single range switch there's no mad lead swapping every time you want to change measurements. It's overload protected, mirrored 90° scale for really accurate reading. Required two "AA" and one 9V battery. Cat Q-1143

- Shipping Weight: 730g
- Shipping Size: 200 × 21 × 90mm
- Meter Size: 125 × 170 × 50mm, weight 480g
- Full electronic (FET) operation
- High input impedance

The Best of Both Worlds: Analog/Digital Display

Digital multimeters are great: no mis-reading, no parallax error, high accuracy . . . but! Many users don't like the loss of dynamics: because dmm's sample at fixed time intervals, changing values in a circuit are often lost. Here's the answer: a digital multimeter which displays in "bargraph" form. 105 step bar graph gives 1% resolution with a fast 10 per second sampling. A 10× expansion switch immediately expands the scale for more precise readings — and a data hold switch freezes the reading immediately prior to pressing. Or a maximum hold function memorises the maximum reading, but readings continue. Cat Q-1777

- Shipping Weight: 250g
- Shipping Size: 145 × 86 × 34mm
- Auto positive or negative indication
- Continuity and diode check functions inbuilt

Our Lowest Cost Digital is a Top Performer

The new DSE Q-1440 Digital Multimeter proves that price doesn't necessarily equal performance! Despite its low cost, it has the features and specifications of many top-of-the-line digitals costing many times as much. Latest IC technology is used to achieve the lowest possible component count — ensuring reliability, accuracy, stability and really rugged, easy-to-handle instrument.

Includes fully shrouded probe for maximum safety. Requires only one 9V battery. Cat Q-1440

Includes fully shrouded probes for maximum safety.

- Shipping Weight: 250g
- Shipping Size: 130 × 115 × 35mm
- Meter Size: 65 × 22 × 110mm
- Sloping readout for maximum visibility
- Input impedance 1Mohm DC

Low Cost Digital with Data Hold

So simple to use — yet highly professional specifications. When you want a digital multimeter that offers you flexibility without a high price tag, it's hard to go past this one.

With well-thought-out ranges, it also includes a "data hold" function (great when you can't watch the display all the time) a diode checker, and also a DC range of 10 amps: very handy! All this in a meter with 10Megohm input resistance, excellent RF shielding and a clear, wide angle display for easy, accurate reading. Cat Q-1521

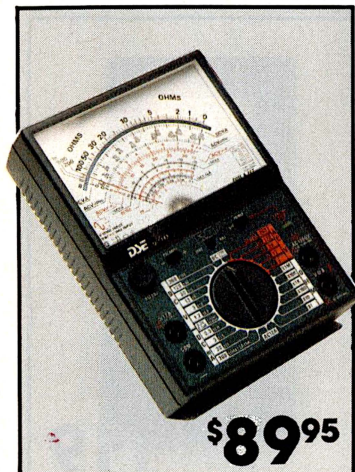
- Shipping Weight: 250g
- Shipping Size: 113 × 43 × 163mm
- Up to 2000 hours battery life (9V alkaline)
- Single knob range changing
- Safety recessed & shrouded connections
- Meter Size 150 × 74 × 35mm

Ranges:
DCV: 0.3, 1.2, 12, 30, 120, 300, 1200 (10M ohm input imped)
ACV: 3, 12, 30, 120, 300, 1200V (plus pk-pk: approx 1MHz)
DC: 0.1uA, 0.3, 3, 30, 300mA, 12A
AC: 12A
Decibels: -10 to +63
Resistance: ×1, ×10, ×100, ×10k, ×1M
AC Bandwidth: 1MHz

Ranges:
DCV: 100mV, 2.5, 10, 50, 250, 1000V (5M imp)
ACV: 10, 50, 250, 750V (minimum 5k/v)
DC: 2.5, 25, 250mA
Res: 250 ohms, 2.5, 25 250k, 2.5M
Cont: 250 ohms max, buzzer <100 ohms approx.
Diode: Reads Vf on display, approx. 0.5mA

Ranges:
DCV: 2, 20, 200, 1000 (1Mohm)
ACV: 200, 500V
DC: 2, 20k, 200mA
Res: 2k, 20k, 200k, 2Mohms
Diode and Transistor check.

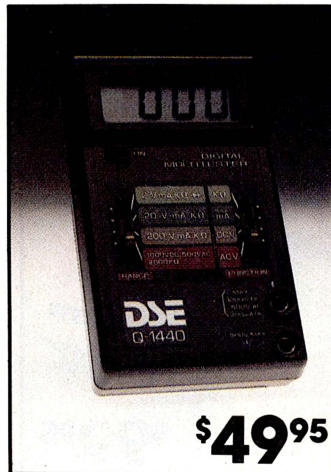
Ranges:
DCV: 2, 20, 200, 1000
ACV: 200, 750
DC: 2, 200mA, 10A
Res: 2, 20, 200k, 2M
Diode: Checking range reads Vf



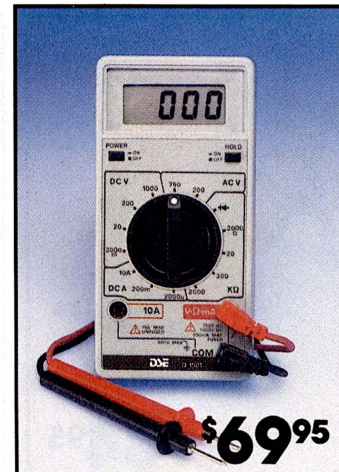
\$89⁹⁵



\$79⁹⁵



\$49⁹⁵



\$69⁹⁵

Multi-Piece Test Lead Set

What value! Budget set designed for the hobbyist, technician, etc. Long (1.2m) red and black test leads usable in their own right with 4mm banana plugs one end and 1.5mm probes the other. Also included are a pair of e-z hooks and a pair of open-end lugs. The 1.5mm probes plug into these to change the probe type. Simple but it works very well indeed. Cat W-4523

All housed in protective plastic wallet.
Wallet size: 160 × 85 × 20mm
Shipping weight: 70g

\$8⁹⁵

Universal Test Lead Set

The professional model: the ultimate set for the engineer, technician or advanced hobbyist. It's a screw-together system which allows virtually unlimited choices in probe types and ends.

- The set comprises 21 pieces:
- Red & black "curly" test leads which stretch out to over 2m, with 25mm insulated handles one end and 100mm handles the other.
 - 4 × 18mm long 1.5mm probes
 - 2 × open-ended spade lugs
 - 2 × 100mm long 1.5mm probes

- 4 × alligator clips
- 4 × 4mm banana plugs
- 2 × right angle adaptors
- All housed in a plastic protective wallet

To make the test leads you want, just screw in the connectors you want. It's that simple! And it suits virtually any meter or test gear available. Cat W-4528

\$24⁹⁵

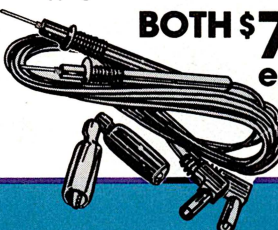
DMM Lead Set

Designed especially for modern digital multimeters (such as our Q-1510, Q-1512 and Q-1515 DMM's) this superb lead set features fully shrouded right-angle meter plugs (no chance of exposed metal to zap you!), 1.1 metre long cables, and a unique threaded 1.5mm probe with 100mm handle. The purpose of the thread is to allow other tips: a pair of threaded alligator clips is supplied which, when screwed on, are also fully shrouded for complete safety. Cat W-4510

Also available, replacement test leads to suit DMM's such as our Q-1500, Q-1505 and Q-1600. Cat W-4511 (Similar to W-4510 without alligator clips.)

Shipping weight: 85g
Shipping size: 210 × 80 × 20mm

BOTH \$7⁹⁵ each



Ultra-flexible Multimeter Cable

Designed especially for test gear use, this 512 strand (yes, count them: 512 wires!) cable will take the bends, kinks and knots that would destroy conventional cable. And because there are so many strands, cable resistance is very, very low — not measurable on most test equipment. Of course, this cable is also ideal for connection to moving parts (eg car door speakers, machinery, etc) where continuous movement would break normal cable. Cat W-4016

Pack contains 2 metres each of 3mm red and black cable (4 metres total).

\$7⁹⁵



TEST EQUIPMENT

Safety Yellow 3.5 Digit with Tr, Diode & Continuity plus Battery Checking

At last! Someone's got away from basic black or basic grey in a multimeter! This one has all the usual ranges, including current to 10A and resistance to 200 megs, but it also has a continuity checker with a fast 100ms response time, a diode and transistor checker, plus a battery checker — it tests under actual load conditions. It takes a single 9V battery (and tells you if it's low!) and comes complete with a flip-down handle that doubles as a stand. Cat Q-1445

- Shipping Weight: 288g
- Shipping Size: 140 × 130 × 40mm
- Bright yellow colour with large LCD display
- Continuity buzzer, transistor checking too
- Battery checking under load
- Meter Size: 72 × 128 × 33mm

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 0.2, 2, 20, 200, 650V
DC: 200uA, 2, 20, 200mA, 10A
AC: 200uA, 2, 20, 200mA, 10A
Resistance: 200, 2k, 20k, 200k, 2M, 20M, 200M
Transistor Check: Hfe
Diode Check: 1mA, 3.2V
Continuity: Buzzer
Battery Check: 1.5V (@ 200mA), 9V (@ 6mA)



\$84⁹⁵

Safety Yellow 3.5 Digit with Cap, Tr, Diode & Continuity

Very similar to our Q-1445 multimeter, with slightly different ranges to suit different purposes. This one features a capacitance checker (2nF to 20uF) in place of the battery check ranges, and goes to 20 megohms as its top resistance range. Features very high overload protection (at least 500 volts DC, up to 1200V DC on most ranges), and the meter is fuse protected. Resolution is a very respectable 100uV/100nA, with a very fast 300ms cycle time (3 readings per second) so you aren't waiting forever for the display to catch up with the circuit. Comes complete with a flip-down handle that doubles as a stand. Cat Q-1465

- Shipping Weight: 241.7g
- Shipping Size: 140 × 130 × 40mm
- Bright yellow colour with large LCD display
- Continuity buzzer, transistor checking too
- Capacitor measurement up to 20uF
- Meter Size: 72 × 128 × 33mm

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 2, 20, 200, 650V
DC: 200uA, 2, 20, 200mA, 10A
AC: 200uA, 2, 20, 200mA, 10A
Resistance: 200, 2k, 20k, 200k, 2M, 20M
Capacitance: 2, 20, 200nF, 2, 20uF
Transistor Check: Hfe
Diode Check: 1mA, 3.2V
Continuity: Buzzer



\$99⁹⁵

Autoranging 3.5 digit with memory!

A new model — updated and improved! It now includes transistor gain measurement, data hold, and improved ranges. Autoranging means you don't have to worry about which setting you're on: a boon for the service technician who doesn't know quite what to expect — or for the beginner who doesn't know! And it has auto polarity PLUS high levels of overload protection on all ranges — it won't let you make an "oops". Fast 1/2 second cycling means you're not left in the dark with old readings, either. It features a "lo ohms" setting which limits o/c voltage for in-circuit resistance measurements, and the handy buzzer sounds at 1.9 digits so you don't even have to look at the display. The auto-ranging is switch selectable, with manual ranging giving extended resolution (150% auto range). Cat Q-1516

- Shipping Weight: 250g
- Shipping Size: 180 × 155 × 55mm
- Auto ranging for hands-free operation
- Continuity buzzer, transistor checking
- High overload protection
- Meter size: 75 × 150 × 34mm

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 2, 20, 200, 750V
DC: 20, 200mA, 10A
AC: 20, 200mA, 10A
Resistance: (lo) 2k, 20k, 200k, 2M, 20M (hi) 200, 2k, 20k, 200k, 2M, 20M
Transistor Check: Hfe
Continuity: Buzzer



\$109

3.5 Digit LCD with Diode, Continuity and Temperature

A reliable, value-packed LCD that's ready for work! With many more ranges than most metres in its price bracket, this one includes full ranges of AC and DC current (up to 10A) with 6 different voltage ranges too. But more than this, it will check those diodes in your junk box as well as give a digital temperature readout. It's overload protected (up to 1kV DC or 750V AC) on all ranges, and with 12mm digits it's easy to read and easy to use. (Input impedance is a very high 10M/100pF on all ranges. Cat Q-1511)

- Shipping Weight: 330g
- Shipping size: 120 × 200 × 70mm
- Meter Size: 170 × 87 × 42mm
- 1000 hours battery life
- Temperature readout • Probes included
- Checks diodes too

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 0.2, 2, 20, 200, 700V
DC: 200uA, 2, 20, 200mA, 2, 10A
AC: 200uA, 2, 20, 200mA, 2, 10A
Resistance: 200 ohms, 2k, 20k, 200k, 2M, 20M
Temperature: -20 to 1370 degrees C
Diode Check: 2.8V @ 3mA
Continuity: Buzzer



\$119

Covers, Pouches, etc Protect your multimeter...

Q-1011 — Soft protection cover for both Q-1010 meter and leads. **\$250**

Q-1514 — Soft protection pouch to any of Q-1510, Q-1511 or Q-1512. **\$995**

Q-1513 — Soft protection pouch to suit any of Q-1515 or Q-1516. **\$995**

Q-1522 — Flexible but hard cradle to suit Q-1515 or Q-1516. Impact absorbing, suitable for either desk/bench use or wall mounting. **\$995**

Q-1668 — High density rubber cover to protect your meter from the rough stuff. Suits Q-1666. **\$24⁹⁵**

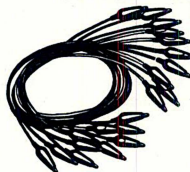
Q-1667 — Hard leather-like case to suit Q-1666. With carry strap and internal divider to hold test probes, etc. Clip on lid means you don't have to remove meter when testing. **\$34⁹⁵**



Small Jumper Set

Great value for the hobbyist, experimenter, technician, etc. 9 piece jumper set with small insulated clips. Colour coded. Cat W-4570

\$5⁷⁵



Medium Jumper Set

4 piece colour coded jumper set with medium sized clips. Ideal for those circuits with a little more 'beef'. Cat W-4571

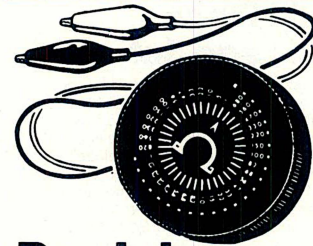
\$5⁹⁵



Hook Type

This is a great idea for a jumper set. Two piece colour coded leads with right-angle claw hooks to get a good grip on components, etc. Cat W-4572

\$4⁹⁵



Resistance Substitution Wheel

Convenient size with large, easy to read value selection that enables you to select values from 5 ohms to 1M ohm in 36 steps by using most common divisions. Complete with leads and insulated crocodile clips. Cat Q-1410

\$17⁹⁵

LCD Multimeter Cap/Transistor Checker

Not just the usual voltage, current and resistance ranges — though it's certainly got those — it also checks capacitors (2 ranges, up to a whopping 20uF!) PLUS transistors and diodes. And even more: it's got an audible continuity checker. Plus other features — such as automatic zero of all ranges, high surge voltage protection, automatic overrange indication, high current measurement (10AC & DC) etc, etc — makes this the one digital multimeter you can do just about everything with! Looks like you'll have to check it out! Cat Q-1500

- Shipping Weight: 625.4g
- Shipping Size: 170 x 140 x 50mm
- Meter Size: 162 x 88 x 38mm
- Weight: 340g

All normal range PLUS a Frequency Reading DMM!

It's finally happened: a digital multimeter with frequency reading... as well as all the advanced features of a top DMM (capacitance, transistors & diodes, continuity, etc) the Q-1505 also features direct frequency readout to 200kHz. Ideal for audio and general service work — now there really is one piece of test gear that does everything. And it even reads to 20A AC/DC! Cat Q-1505

- Shipping Weight: 570g
- Shipping Size: 190 x 150 x 50mm
- Frequency to 200kHz
- Current to 20A
- Transistors, diodes & capacitance too

4.5 digit with Data Hold Function

What was the result? With most meters, digital or analogue, the reading is but a moment in time. If you miss it... The DSE Q-1600 solves the problem: hit the "data hold" button and the reading is frozen on the display — until you clear it. Very handy for test and evaluation procedures, standard service work, etc. Another highly unusual feature is its 20A range — double most meters. And that's on both DC and AC. Add to that transistor and diode checking, capacitance, plus buzzer and LED continuity, and you have one of the most versatile meters ever produced. Cat Q-1600

- Shipping weight: 570g
- Shipping Size: 190 x 150 x 50mm
- Meter Size: 176 x 90 x 40mm
- Weight: 380g
- "Data Hold" function
- Up to 20A current reading
- Capacitance & transistors too

Double the Accuracy! "4000 Count" Digital with Bargraph

Probably the best multimeter you'll ever own! Most 3.5 digit multimeters are based on a "2000" count display, which is fine until you go above 2 units. Then accuracy suffers. 4.5 digit meters are available, but expensive. This one overcomes the difficulty by going half way between: it counts to 4000 units.

But there's more: it also includes a bargraph display to show the dynamics of constantly changing circuits. This, coupled with auto ranging, memory, auto power down, etc. makes it sensational value for money. Cat Q-1666

- High accuracy and high resolution
- At least 10Mohm impedance on DC AND AC!
- Illuminated, large LCD scale.

Ranges:
DCV: 0.2, 2, 20, 200, 1000
ACV: 0.2, 2, 20, 200, 700
DC: 200uA, 2, 20, 200mA, 10A
AC: 2, 20, 200mA, 10A
Res: 200, 2k, 20k, 200k, 2M, 20M
Cap: 2000pF, 20nF, 200nF, 2uF, 20uF
Transistor: Displays Hfe
Continuity: Buzzer & LED at <30 ohms
Diode Check: displays Vf (2.8V@1mA)

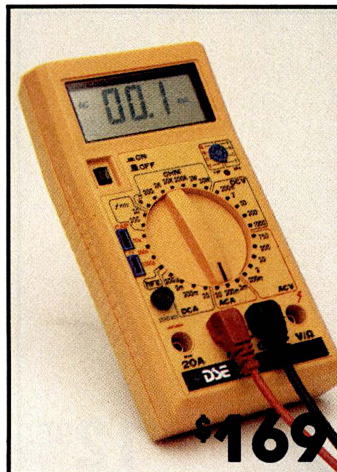
Ranges:
DCV: .2, 2, 20, 200, 1000
ACV: .2, 2, 20, 200, 750
DC: 200uA, 2, 200mA, 20A
AC: 2, 200mA, 20A
Res: 200, 2k, 20k, 200k, 2M, 20M
Cap: 2000pF, 200nF, 2uF
Transistors: Hfe
Diodes: Vf
Frequency: 20kHz, 200kHz (max. 250V)
Top quality rubber insulated probes/leads included

Ranges:
DCV: 0.2, 2, 20, 200, 1000V
ACV: 2, 20, 200, 750V
DC: 200uA, 2, 200mA, 20A
AC: 2, 200mA, 20A
Resistance: 200, 2k, 20k, 200k, 2M, 20M
Capacitance: 2, 20, 200nF, 2, 20uF
Transistor Check: Hfe
Continuity: Buzzer & LED
Top quality rubber insulated leads included

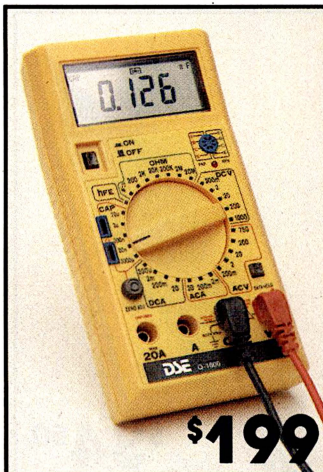
Ranges:
DCV: 400mV, 4, 40, 400, 1000V (at least 10Mohms)
ACV: 4, 40, 400, 750V (at least 10Mohms/50pF)
DC: 40, 400mA, 10A
AC: 40, 400mA, 10A
Resistance: 400 ohms, 4, 40, 400k, 4, 40Mohms
Continuity: 400 ohms
Diode: 0-2V



\$129



\$169



\$199



\$249

Alligator Clips

Colour-coded spring-loaded clips with insulated handles for temporary circuit mock-ups, battery and power supply connection, and so on.

Mini Size

Fully insulated with plastic shroud almost fully covering clip. Easy to solder to, or can be used solderless by using crimp lugs.

Overall shroud length 32mm
Red: Cat W-4550
Black: Cat W-4552

40¢ each



Large Size

Similar to mini clips, but capable of larger current carrying capacity. Also usable in soldered or solderless mode.

Overall shroud length 50mm
Red: Cat W-4554
Black: Cat W-4556

60¢ each

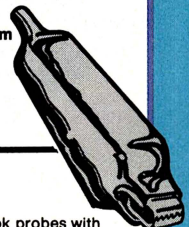


Giant Size

Intended for battery connection, these clips have wide, flat jaws which open to almost 15mm for battery terminals, etc. High current capacity because of the wider connecting surface.

Overall shroud length 70mm
Red: Cat W-4558
Black: Cat W-4560

\$1.95 each



Test Clips

Feature tiny hooks to connect around component leads or pins without shorting to the next lead or pin. Plunger action exposes hook, releasing plunger withdraws hook into shroud for maximum safety.

Mini Size

Perfect for IC work, etc, because of the small size. Hook size allows up to 1.5mm diam pins to be connected. Lead enters through handle and solders direct to probe.

Overall length 40mm
Red: Cat W-4584
Black: Cat W-4586

95¢ each

Coloured: Cat W-4588 95¢



Large

Slightly larger than left, similar to the famous E-Z Hook but much lower in price. Easy to solder to, works on same principle with 1.5mm diam wire/pin handling capacity.

Overall length 57mm
Red: Cat W-4580
Black: Cat W-4582

\$1.25 each



Giant

Famous Miyama brand hook probes with I-o-n-g probe to get into difficult places. Overall length is 137mm, most of which is the handle! No-soldering design: test leads connect into handle with thumbscrews. Hook capacity approximately 3mm.

Overall length 137mm
Red: Cat W-4589
Black: Cat W-4590

\$3.95 each



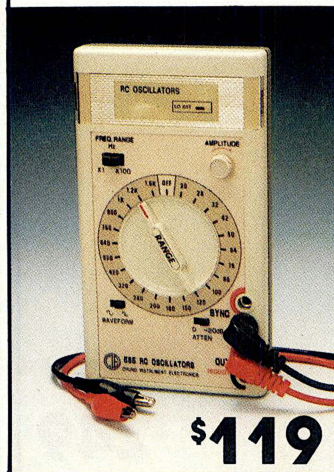
Hand-Held RC Oscillator

A really worthwhile addition to your test gear: a hand-held oscillator that's small enough to take anywhere. About the same size as a digital multimeter, it gives you 23 ranges of sine and square waves (switchable) between 20Hz and 1.5kHz, plus a $\times 100$ range: 46 settings in all. Continuously variable amplitude and a -20dB attenuator built in gives total control. And you can sync the signal if you wish. Output is standard 600 ohms. Cat Q-1220

Complete with clip test leads

Specifications:

Range: $\times 1$ 20Hz to 1.5kHz
 $\times 100$ 2kHz to 150kHz
 Accuracy: 20Hz to 100kHz $\pm 3\%$
 above 100kHz $\pm 5\%$
 Output control: 0dB, -20dB + fine adjust
 Output impedance: 600 ohms $\pm 10\%$
 Waveform: Square or Sine, switchable
 Square wave: 9V p-p max, rise time $< 0.5\mu s$
 Sine wave: 1.2V rms
 Shipping weight: 220g
 Carton size: 115 x 35 x 160mm
 Max. distortion: 0.3% THD



\$119

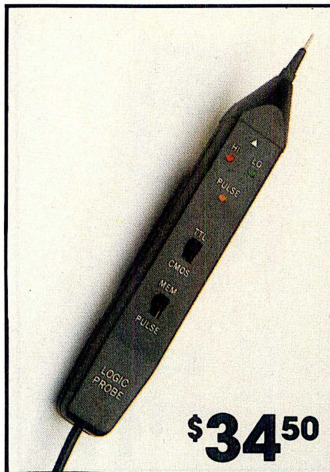
3-State Logic Probe

A superb time-saving tool for the engineer, technician or hobbyist. Much easier than and more practical than tying up your multimeter or CRO: you'll be able to tell at a glance what the logic state is of the circuit under test by seeing which LED is glowing. Power is obtained from circuit under test (5V) via test clips, and the probe point is fine enough to touch individual IC legs, etc. "High", "Low" or "Pulse" states are revealed by individual LEDs. And it's small enough to be held in one hand, leaving, your other hand free for adjustments. Cat Q-1272

Shipping weight: 96g
 Carton size: 230 x 120 x 20mm

Features:

- Adjustable threshold for DTL/TTL or CMOS circuits.
- Two modes of operation: pulse (with time stretching so you don't miss quick pulses!) and mem (holds display until cancelled).
- Low circuit loading (approx. 30uA input)
- Tested to 12.6MHz.



\$34⁵⁰

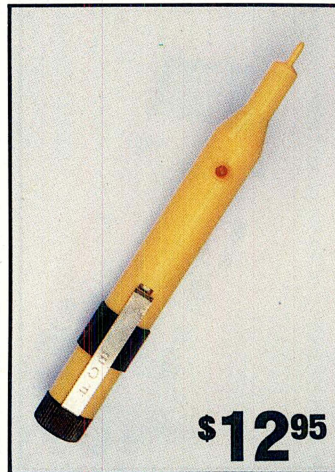
Absolutely Safe! AC Voltage Finder

An absolutely essential piece of test equipment for electricians, maintenance workers, amateurs, hobbyists, etc. etc. When we say absolutely safe, we mean it: this sensor works by sensing the electromagnetic field — no connection to the cable under test is required AND it works through insulation. Senses any AC voltage above approx. 60 volts with both a visual (LED) and aural (buzzer) indication. It can detect the difference between active and neutral/earth to tell you which one "bites"! Cat Q-1530

- Pocket size — with pocket clip
- Battery operated (lasts for years)
- NO CONNECTION TO CIRCUIT UNDER TEST REQUIRED
- Operates through many levels of insulation
- Great for finding breaks in cables, too.

Specifications:

Minimum detection voltage approx. 60V AC operation only
 Size: 135mm long \times 15mm dia.
 Power source: 2 \times G13 batteries
 Checks: cables, fuses, circuit breakers, outlets, etc. by determining whether AC is connected.



\$12⁹⁵

An age-old problem solved:

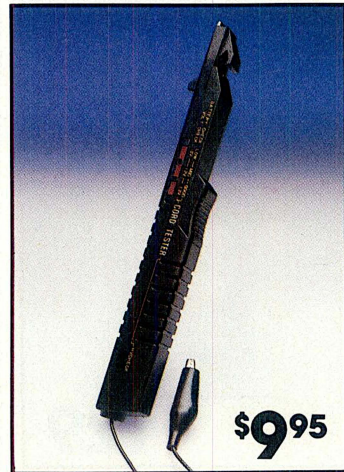
12V Auto Voltage Checker

One of the most difficult items to electrically check is the good old car. Everything is plugs and sockets — they make it so hard to get at! Here's the easy way: the cable-piercing checker. Just slip it over the cable concerned, slide the needle point through the insulation and presto! 3 led scale gives low, mid or high voltage reading. Also checks spark plugs and leads. Cat Q-2000

- No batteries required (powered by source)
- A must for the home mechanic or auto electrician
- Handheld — only 165 \times 22 \times 17mm

Specifications:

Measures in three ranges, all indicated by LEDs:
 Low — up to 3V
 Medium — up to 12V
 Good — up to 13V plus HT (indicated by neon)



\$9⁹⁵

Even measure windspeed!

Imagine the applications: boating, sporting, scientific, commercial, aviation... now you can get a highly accurate measurement of true windspeed in the palm of your hand! Measures speed in knots, miles per hour or metres/second — and displays results on a 3 digit LED display. Sapphire jewel bearings for minimum resistance, maximum life. Complete with lanyard, pouch and comprehensive instructions. Cat Q-1405

Specifications:

Accuracy: normally 3% maximum (4% on "knots")
 Range: 99.9 mph, 87.9 knots, 8790 feet/min, 44.8 m/s

Size: 29.5 x 66 x 118mm
 Weight: 85g
 Shipping weight: 95g



\$159

E-Z Cable Checker

The name says it all! Every roadie, every band in the world needs one of these. Even the amateur sound recordist, club or church PA operator — anyone involved in audio cables will find the E-Z Check invaluable. Simply plug your cable in — Cannon, 6.5mm mono or stereo, RCA or BNC — and a series of LEDs tell you if it's okay. Imagine the time savings when searching for that elusive cable fault. Works equally well with patch cables having different connectors on each end (eg Cannon to RCA). Requires only single 9V battery (not included). Rugged, heavy-weight steel case with heavy duty non-scratch rubber base. Cat Q-1532

Specifications:

3-pin checking for Cannon and Stereo 6.5mm
 2-pin checking for RCA and BNC
 Push-button LED indication
 Power: 9V battery

Unit size: 138 \times 90 \times 70mm
 Shipping weight: 728g
 Carton size: 160 \times 115 \times 80mm



\$39⁹⁵



Digital Lux Meter

Ideal for photographers, video users, laboratories — anywhere there's a need to measure light quickly and accurately! The DSE Digital Lux Meter is fantastic value — you'll pay twice as much at a photo store. Accurately measures up to 50,000 LUX over three range selections and comes complete with its own carry case! Cat Q-1400

- 0-50,000LUX • Auto Zero • Low Battery Indicator
- 13mm Display • 150-200 Hours Continuous Use

Shipping weight: 195g
 Shipping size: 130 x 80 x 40mm

\$129

Professional Quality...
Professional
Performance:

6.5MHz CRO

Every hobbyist knows how valuable a good oscilloscope is: probably the most useful piece of test gear you can own.

Here's what it offers:

- Retrace blanking for a much clearer display
- 10mV per division vertical sensitivity
- 250mV/division external horizontal sensitivity
- 10Hz to 100kHz, plus external timebase
- Internal or external sync
- Useable response to beyond 6.5MHz

Ideal for the shack, the work bench, in service work, in the classroom and also electronics (apart from the tube!) means fast warm-up and extremely low drift. Cat Q-1280

Specifications:
Vertical bandwidth: DC to 6.5MHz (-3dB)
Attenuator: 1/1, 1/10, 1/100 and ground
Horizontal sensitivity: 250mV/div or more
Timebase: 10Hz to 100kHz
Sync: External or internal
Input Impedance: 1 Meg/35pF
Shipping weight: 4.2kg
Carton size: 400 x 200 x 250mm



\$399

20MHz Dual Trace CRO

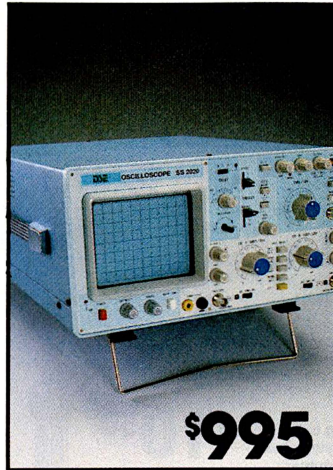
with inbuilt
component checker

You could buy one of those big-name oscilloscopes (the ones with the big-name price tags) and you probably wouldn't get all the features of the DSE CRO. It's a fully professional quality dual trace model offering outstanding performance for the price!

- 20MHz bandwidth (-3dB)
- Use in single or dual trace mode
- Dual trace in chopped or alt mode
- Complete with 2 probe sets
- Inbuilt component checker — for capacitors, inductors, transistors, diodes, zeners, etc.
- And much, much more! Cat Q-1260

Shipping weight: Approx. 10kg
Carton size: 530 x 320 x 430mm

Specifications:
DC-20MHz (-3dB), with less than 17.5ms rise time and 3% overshoot
Deflection: 5mV/div to 5V/div in 10 calibrated steps (1-2-5 sequence)
Accuracy: $\pm 1-3\%$
Timebase: 0.1us/div to 2/div in 20 calibrated steps (1-2-5 sequence)
Uncalibrated control to at least 5/div
Triggering modes: peak or normal from either/both channels or external
Trigger Sensitivity: 0.5V/div
Sweep delay: 0.1us to 10ms in 6 steps

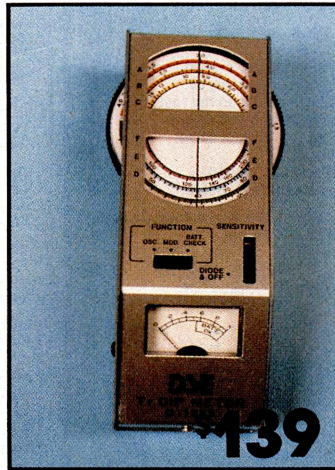


\$995

Transistor Dip Meter

Anyone working with RF circuits will tell you one of the handiest pieces of test gear to have around is a "dipper": an instrument which detects resonances by showing a "dip" in a meter. The advantage is no physical circuit connection is required (it works on inductive or capacitive coupling) so a dipper is ideal for working on live RF circuits. At last there's a Transistor Dipper which won't break the bank — but has performance and specs right up there with units costing \$\$\$ more. The ARRL tells what to look for in a dipper — mechanically and electrically stable, good coils, a headphone connection and battery operated. The DSE Transistor Dipper satisfies all these requirements and more! Cat Q-1335

Specifications:
Frequency range: 1.5 to 250MHz
Frequency selection: 6 colour coded plug-in coils
Crystal Oscillator: 1.15MHz
Modulation: Approx. 2kHz sine wave
Power Supply: Internal 9V battery



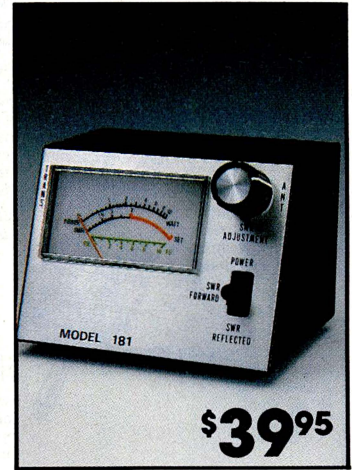
\$139

Especially for
27MHz CB:

Power, SWR & built-in Field Strength

Find out all about the set output, the antenna SWR, even the directional qualities of the signal (great for mobile installations). 50 ohm meter can be left permanently in-line or taken out for field strength measurements. Full instructions are provided to make sense of the readings — even for the non-technical person. Cat Q-1350

Specifications:
Power: 10W full scale
Frequency: 26-30MHz
Impedance: 50 ohms
Connectors: SO-239
Unit Size: 57 x 65 x 64mm
Shipping Weight: 390g
Carton Size: 105 x 90 x 70 mm



\$39⁹⁵



Great Value!
ONLY
\$69⁹⁵
pair

60MHz x1/x10 CRO Probes (pair)

Anyone who owns a dual trace CRO will appreciate this! Universal probe which has x1/x10 switch, comes with wandering earth lead and insulating shroud in handy plastic pouch. The best news is that you don't get one — but a pair! Cat Q-1247

Specifications:
Working Voltage: x10 — 600V (AC p-p) or x1 — 300V (DC+AC p-p)
Input Capacitance: 13.8pF 72.5pF
Input Resistance: 9Mohm 237 ohm
Bandwidth: 60MHz

ALSO AVAILABLE!

Single 100MHz Probe. With x1/x10 and all the most used features. Cat Q-1245

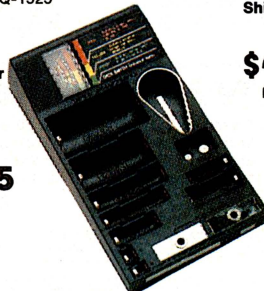
\$47⁵⁰

Battery Lamp and Fuse Tester

Make sure you're not throwing away a fortune! Checks a huge range of 1.5V-9V cells actually under load: the only way to check them! Even checks NiCads, calculator, watch and photographic batteries. Also checks miniature lamps and cartridge fuses for continuity. Cat Q-1525

Can be used as NiCad battery charger with optional 6V adaptor (M-9525).

\$19⁹⁵



Shipping weight: 200g
Shipping size: 100 x 90 x 70mm

DC Bench Ammeter

The ideal economy benchtop meter. Measures current in two ranges: 0-5 & 0-10 amps DC. With easy to read 80 x 80 sloping scale so its great for demonstration work. With 4mm banana terminals. Cat Q-2130

Size: 140 x 110 x 100mm
Shipping Weight: 345g

\$29⁹⁵



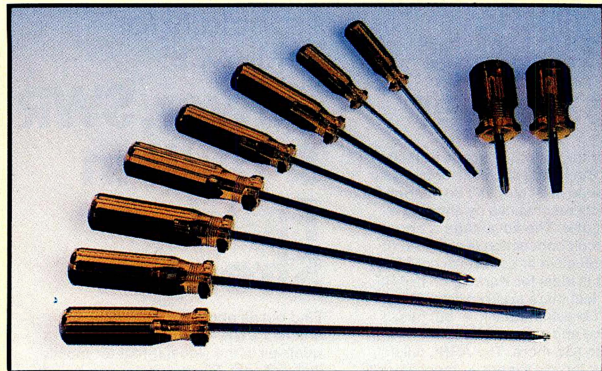
Bench Voltmeter

Cheaper and more convenient than a multimeter... perfect for schools, demonstration, etc. Measures voltage in two ranges: 0-20 & 0-10 Vdc with $\pm 2.5\%$ accuracy. Large scale 20 volt scale is easy to read at a glance so it's ideal for automotive service and test applications. Cat Q-2140

Size: 140 x 110 x 100mm
Shipping Weight 340g

\$29⁹⁵





Quality Screwdrivers

High impact, chrome vanadium blades and insulated handles makes these just the thing for electrical work. Tradesperson or hobbyist, there's just the thing for that hard to get screw.

Mini Drivers

Mini is right! Just the size for precision models, turntable cartridges, etc. At our low prices you can afford to buy a couple in case you lose one!

Flat Blade: Cat T-6010
Phillips: Cat T-6015

Size: L 30mm
D 1.6mm H 25 x 7mm

Shipping weight: 5g

95¢ ea.

Stubby Drivers

Great for confined spaces — or that tough screw which needs extra muscle. You can really get a grip on these!

Flat Blade: Cat T-6020
Phillips: Cat T-6025

Size: L 38mm
D 6mm H 45 x 30mm

Shipping weight: 50g

\$1.95 ea.

Standard

Ideal for general purpose electronic work. Spot-on for 1/4 whitworth!

Flat Blade: Cat T-6030
Phillips: Cat T-6035

Size: L 75mm
D 3.2mm H 57 15mm

Shipping weight: 30g

\$1.95 ea.

Popular

The best "all-round" size for most jobs. Our most popular size.

Flat Blade: Cat T-6040
Phillips: Cat T-6045

Size: L 100mm
D 5mm H 74 x 16mm

Shipping weight: 75g

\$1.95 ea.

Medium Duty

Big enough to get a good strong grip and plenty of leverage. Add this to the rest of the range and you've got the right tool for just about any job.

Flat Blade Cat T-6050
Phillips Head Cat T-6050

Blade Size: 150mm x 6.5mm (D:5mm)
Handle: 95 x 25mm

\$1.95 ea.

Heavy Duty

Everyone needs a big gun sometimes! Strong enough for the toughest work — ideal for the tradesman.

Flat Blade: Cat T-6060
Phillips: Cat T-6065

Size: L 200mm
D 7mm H 100 25mm

Shipping weight: 100g

\$3.95 ea.

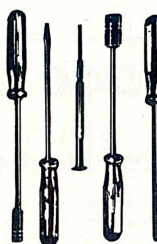
Baby Driver Set

Handy plastic wallet containing 5 of the most widely used drivers:

- 2.6mm flat blade
- 1.6mm flat blade jeweller's
- "00" size Phillips
- 5.5mm spintight
- 4mm spintight

Ideal for electronics, model makers, repairs, etc.
Cat T-4340

Shipping weight: 75g
Pack size: 160 x 90 x 10mm



\$8.95

21 Piece Metric Utility Set

This set has to be seen to be believed. 20 piece nickel chrome molybdenum steel with chrome plated handle presented in a handy transparent plastic box.

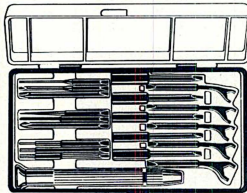
The set includes:

- 3 blade screwdrivers — 1.5, 2.5, 3.5mm
- 2 Phillips screwdrivers — No. 1 and No. 3
- Hex Allen keys — 1.5, 2.0, 2.5mm
- 5 open end spanners — 4.0, 4.5, 5.0, 5.5, 6.0mm
- 5 spintights — 3.0, 3.5, 4.0, 4.5, 5.0mm
- 1 tommy bar 1awl 1 handy assembly.

You will be proud to have this excellent quality set in your tool range. Great value for money! Cat T-4365

Shipping weight: 153g
Pack size: 130 x 85 x 20mm

\$12.95



10 Piece Mini Tool Kit

There's even a hammer in this one! Mini kit is just right for repair and general hobbyist work. And if it doesn't work... use the hammer! Cat T-4380

- Contains:
- 2 flat blade drivers, 2.0mm and 1.4mm
 - 2 Phillips drivers, size 02 and 03
 - 1 magnet
 - 1 awl
 - 1 3-prong catch
 - 1 magnifying glass
 - 1 mini hammer
 - 1 pair tweezers

Shipping weight: 190g
Pack size: 150 x 100 x 22mm

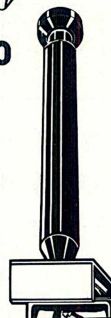
\$10.50

IC Insertion Tool

Don't damage fragile IC's: this IC insertion tool keeps the pins shorted together and in the right place while you get the right position. Handles 14 and 16 pin IC's in standard DIL package.
Cat T-4640

Shipping weight: 20g
Pack size: 105 x 20 x 10mm

\$9.95



Steel Rule

300mm hardened spring steel with deep etched black graduations. Non-rusting, complete with plastic sheath. Cat T-5145

Shipping weight: 50g
Pack size: 350 x 35mm x 2mm

\$6.45



6 Piece Precision Set

These chrome plated screwdrivers are presented in a plastic storage case. A free running top on each driver gives operator ease of use. The set consists of 4 blade drivers from 1.4mm to 2.9mm and 2 Phillips screwdrivers, No. 0 and No. 1. These are quality screwdrivers at a low price and a very handy set to have around. Cat T-4360

Shipping weight: 148g
Pack size: 130 x 70 x 20mm

\$5.95



Allen Key Set

So here's an ideal set for the workshop. 7 gunmetal finish Allen keys in a plastic wallet. Sizes 1.4mm, 1.5mm, 2mm, 2.4mm, 2.5mm, 3mm, 4mm. They are ideal for most European and Japanese equipment that have Allen screws. Cat T-5080

Shipping weight: 35g
Shipping size: 100 x 55 x 5mm

\$4.25



Deluxe Pin Vice

Stored inside the body are two double-ended locking collets that can be used to hold anything from 3mm diam. down to virtually nothing. That could be small drills (fantastic for drilling PCBs!), screwdriver blades (now you don't have to throw broken blades out!) awl points, scribers, reamers, needles and pins, etc. etc. Cat T-5115

Shipping weight: 55g
Shipping size: 70 x 150 x 15mm

\$19.95

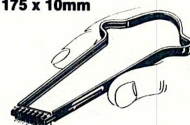


IC Extraction Tool

The perfect way to remove IC's without damage. Works with all DIL packs, no bent pins and no static damage! Operates like a pair of tweezers — with hooks! Cat T-4650

Shipping weight: 20g
Pack size: 100 x 175 x 10mm

\$3.25



Neon Tester Screwdriver

Very handy little item to have around: it's a standard flat blade screwdriver, but inside is a neon indicator to warn you of dangerous voltages. Operates from about 90 volts (AC or DC). Ideal for anyone working with mains circuits. A life saver! Cat T-4005

Shipping weight: 16.5g
Pack size: 120 x 20 x 20mm

\$3.95

AC Electric Finder

This has to be one of the most useful, safest tools we've ever seen. Detects the presence of AC voltage above 60 volts — And it doesn't rely on contact!

Gives sound and visual warning, distinguishes between positive negative and earth and requires single handed operation. With one of these in your toolkit — finding live wires and faults is easy and SAFE! Batteries last for years. Cat Q-1530

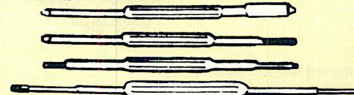
\$12.95

TV Alignment Kit

A versatile set of four general purpose tools to cover all shapes and sizes of cores. They are made from tough plastic. Ends suit hex cores from 2 to 3mm plus slotted cores from 1.5 to 2.5mm. Cat T-4540

Shipping weight: 21kg
Shipping size: 250 x 80 x 0.5mm

\$4.95

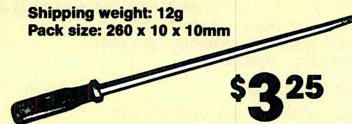


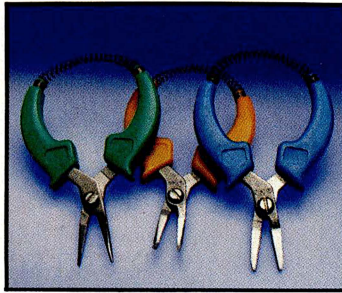
Screwdriver Type

Ideal for handyman and TV technician this plastic screwdriver has a steel spring tip. Suitable for trimmers and mini IF's. Cat T-4520

Shipping weight: 12g
Pack size: 260 x 10 x 10mm

\$3.25



**Curved Needle Nose**

30mm long blade with 5mm curved ends. Point is under 1mm across so they're great for really fine work. 105mm long overall. Cat T-3251

Pack size: 141 x 119 x .130mm
Shipping weight: 50g

**Economy Range
Stainless Steel Tools**

Especially selected range offering the hobbyist a great selection — at an affordable price. Quality construction, with toughened cutting edges for long life, heavily insulated grips in a range of yuppie decorator colours, removable springs, and so on. And they're priced low so the hobbyist can afford them (professionals can get tax deduction on more expensive tools!)

Straight Needle Nose

Similar to above, with even finer end! They're even better than pointy tweezers! Cat T-3252

Flat Nose

Serrated edge blade with wide (3mm) flat ends — ideal for holding those awkward nuts and bolts! Similar size to above. Cat T-3253

ALL ONE PRICE

\$9⁹⁵ ea.**Tweezers
Pointed**

Great for holding small nuts, components and delicate instruments, wires, etc. Also great for removing ticks! Fine points. Cat T-4620

Shipping weight: 20g
Unit size: 130 x 10mm

\$2²⁵**Serrated Jaw**

Has flat serrated jaw for positive grip. Cat T-4630

Shipping weight: 20g
Unit size: 130 x 10mm

\$2²⁵**Economy Wire
Stripper**

Large adjustable range. Hardened jaws will last a long, long time. Great value at around half the price of other makes. Cat T-3630

Shipping weight: 65g
Pack size: 100 x 75 x 10mm

\$4⁹⁵**Deluxe Wire Stripper**

A completely automatic wire stripper. Only one hand operation is required to complete stripping operation. The multiple sized head allows a wide range of wire from 1mm to 3.2mm to be stripped. Ideal for servicemen, TV technicians, hobbyists etc. Cat T-3620

Shipping weight: 300g
Carton size: 180 x 90 x 30mm

**Scissors
Clamps**

Made of stainless steel with screw joint. These scissor clamps are 127mm long so they will reach hard-to-get-at places. They can be used as a third hand for small items as they can be locked on to the articles they are holding. Cat T-3690

Shipping weight: 25g
Pack size: 125 x 70 x 10mm

\$11⁹⁵**Universal
Tweezer Quartet**

What ever you want to tweeze, this'll do it! 4 different 110mm tweezers with fine pointed blades, with flat blades, curved tips and even reverse squeeze (squeeze to release!). All housed in plastic wallet. Cat T-4625

Shipping weight: 75g
Pack size: 100 x 210 x 10mm

\$10⁹⁵**Pearl Catch**

For reaching into awkward places. 3 pronged tweezer with syringe action. A must for small nuts, washers, etc. Great for servicemen, jewellers, hobbyists, etc. Cat T-4660

Shipping weight: 30g
Pack size: 70 x 170 x 10mm

\$7⁹⁵**Economy Wire
Wrapper/Stripper**

Sometimes the best tools are the simplest! That's the case with this 'no-frills' wire wrapping and stripping tool: puts professional style wire-wrapping techniques within reach of the average hobbyist. Cat T-3650

Shipping weight: 40g
Pack size: 100 x 175mm x 10mm

\$12⁹⁵**\$18⁹⁵****Lug Crimping Tool**

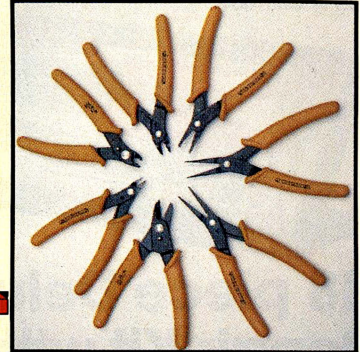
For quick and reliable connections, crimping beats soldering anytime! Do it easily with this versatile crimping tool — It also cuts and strips wire! Complete in pack with lugs ready to use. Great value — and a must for your workshop! Cat T-3520

Shipping weight: 180g
Pack size: 85 x 250 x 10mm

\$7⁹⁵**Famous Piergiacomini
Hand Tools...
available from DSE!**

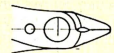
Around the world, Piergiacomini tools are known for their outstanding quality and reliability. They're the choice of professionals — and now DSE has available this superb range.

Expensive? Yes, they do cost more than our hobbyist range: but once you feel the quality, feel the precision, you'll realise they're worth every cent! There's a Piergiacomini for every purpose... all tools feature heavily insulated handles with sprung action blades and locking bush.

**Cutting Nipper with back-angled cut**

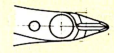
Designed especially for pcb soldering work. The cutting edge is on the opposite side to normal allowing a 1mm pigtail to remain ready for soldering — or allowing clearance of the soldered joint if you trim the pigtails after soldering. Clever — and it works! Blade opening 7mm, handles up to 1.3mm copper wire. Cat T-3261

Shipping weight: 150g

**\$16⁹⁵****Cutting Nipper with standard cut**

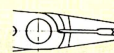
Ultra-precision cutter with standard angled blades allowing completely flush cutting. Special safety feature: spring in blade prevents flying pigtails. Blade opening 4mm, cutting capacity 1mm copper wire. Cat T-3262

Shipping weight: 150g

**\$16⁹⁵****Inclined Frontal Cut Nippers**

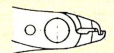
Very easy to handle, allowing leads to be cut 1.5mm from plane — perfect for soldering or to clear soldered joint. The blade tip is angled at 30° to allow access to tight spots. Blade opening 9mm, cutting capacity 1mm copper wire. Cat T-3263

Shipping weight: 150g

**\$9⁹⁵****Inclined Cutter and Bender**

Two birds with one stone! Not only cuts the pigtail, but bends it away from pcb so the component won't fall out. Fantastic! Makes pcb assembly a breeze — and solves one of the biggest bugbears of hobbyists! Blade opening 6mm, cutting capacity 1mm copper wire. Cat T-3264

Shipping weight: 150g

**\$9⁹⁵****Shears**

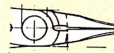
For larger cutting jobs — like mini scissors but with the extra strength needed to get through metal, plastics, etc. 18mm length blades means they'll handle coax cable, etc. Blade opening 10mm, cutting capacity 1.6mm copper wire. Cat T-3265

Shipping weight: 150g

**\$9⁹⁵****Needle Nose Pliers**

Tweezer-like ends for reaching into almost inaccessible places — and flat blades so delicate components won't be damaged. 40mm long blades with 15mm opening at end. Cat T-3266

Shipping weight: 150g

**\$18⁹⁵****Flat Nose Serrated Pliers**

Fine (2.5mm) ends with serrations along blade mean extra grip when you really need it. 12.5mm opening with 40mm long blades. Cat T-3267

Shipping weight: 150g

**\$9⁹⁵****Ripper
Nipper**

Our most popular nipper: high Japanese quality with box joint and hardened cutting edges, with insulated handles for electrical work. 15mm blades opening to over 10mm. Overall length 110mm. Cat T-3561

Shipping weight: 60g
Pack size: 100 x 175 x 10mm

**\$12⁹⁵**

TOOLS SETS

68 piece Multipurpose Repair Kit

Already own a multimeter? This set has everything else — and then some! Auto electric checker (6-12-24V), heavy duty pliers, crimp terminal set... with 60 assorted crimp lugs, insulation tape, even connecting wire! A must for the hobbyist, technician — or even the motorist. Cat T-4834



Shipping Weight: 1050g
Carton Size: 150 × 310 × 47mm

\$24⁹⁵

38 piece Deluxe Repair Kit with Multimeter

Everything for quick and easy wiring repairs — with no soldering! Ideal for automotive and hobby use. Here's what you get: • Multimeter • Crimp Tool • Pliers • 2 Screwdrivers • Neo Tester (rated to 500V) • Selection of crimp lugs. All in a handy, heavy duty carrying case. Perfect for throwing in the car — just in time! Cat T-4832



Shipping Weight: 1100g
Carton Size: 170 × 325 × 42mm

\$39⁹⁵

Ideal for the car!

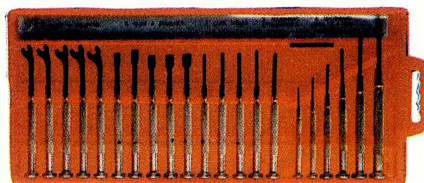
210 Piece Solderless Terminal Set

Multipurpose solderless, insulated terminal set that's ideal for hobbyists, technicians, automotive use, etc. Includes spade terminals, ring terminals, male/female push-on, bullet, hook and butt connectors. In handy, 18 compartment plastic case for easy selection. Cat T-4828



\$19⁹⁵

21 piece Tool Kit



WHAT AN ASSORTMENT!

22 individual pieces in a handy plastic pack (you'll never lose them!): • 5 open ended spanners 4.0-6.0mm • 2 Phillips head screwdrivers • 3 Allen key drivers • 5 nut drivers 3.0-5.0mm • 5 flat screwdrivers • 1 tommy bar. Quality made — a complete set for the hobbyist or technician. Cat T-4830

Shipping Weight: 575g
Carton Size: 340 × 150 × 22mm

\$16⁹⁵

High Speed Mini Drill Kit



Drills

MINIATURE
HIGH SPEED
TWIST DRILLS

Suitable for PC
Board work.

0.8mm Cat T-4825
1.0mm Cat T-4820
1.1mm Cat T-4819

\$2⁹⁵
each

For the hobbyist, technician, toolmaker, etc... this superb mini drill kit is hard to beat. Very high speed — up to 30,000 rpm (depending on voltage used) with a high torque, it's great for drilling, polishing, grinding, deburring, engraving, routing, buffing, carving, sanding, etc. Kit comes complete with four high speed steel twist drills, three collets, grinding bit, spanner and tommy bar, plus DC power cable and plastic case. Cat T-4751

- 12-35V DC operated (external)
- Chuck sizes 0.4-1.5mm, 1.7-2.9mm, & 2.8-2.4mm.
- Weight only 400g, size 105mm × 42mm diameter.

\$24⁹⁵



Computer Service Kit

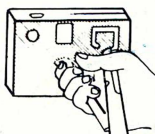
Anyone who owns or works with computers will find this invaluable! 12 piece computer service kit with just the right tool for all those awkward repairs, services, etc. With IC inserter and pin straightener, IC extractor, 3-claw holder, tweezers, phillips and flat-head screw drivers, nutdrivers, reversible torque screwdriver, needlenose pliers... and it's all in a handy zippered case. Cat T-4839

Size: 230 × 155 × 35mm

\$39⁹⁵

Nibbling Tool

A unit that can cut any shape opening in sheet steel to 0.6mm thick or light alloy to 1.5mm. Ideal for plastics too. Easy to use, gives good clean cut without distortion. Follows curved or straight lines with ease. Put one in your tool box today! Cat T-4940



Shipping Weight: 220g
Carton Size: 180 × 115 × 20mm

\$37⁹⁵

Tapered Reamer

An ideal tool for enlarging holes on thin metals, plastics, wood, etc. Great for chassis bashers, hobbyists, servicemen. Made from the highest quality heat treated steel, comes complete with tommy bar. Tapers from 4mm to 22mm. Cat T-4920

Shipping Weight: 170g
Carton Size: 200 × 75 × 25mm

\$14⁹⁵



ARLEC Supertool

What versatility! It sands. It polishes. It engraves. It erases. It mills. It's one of the handiest tools you can have in your arsenal! This fantastic hobby machine is a 10,000 RPM power head which does all of the above with the attachments supplied. And because it operates from low voltage (240V plugpack included!) it's safe. Includes the Supertool and plugpack, 2 milling cutters, 1 wire brush, 1 grinding wheel, 4 high speed drills, 5 chuck collets (0 to 4mm), eraser sticks and instructions. Cat T-4754

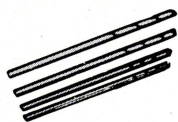
Includes 240V
Plug-Pack Adaptor

Complete with
ON-OFF switch
on the body for
convenience.

Shipping Weight: 1.068kg
Carton size: 260 × 210 × 60mm

ONLY **\$69⁹⁵**

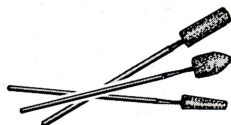
Supertool Accessories:



Set 4 PCB Drills

Top quality high speed steel twist drills in all popular PCB sizes: 1.2, 1.0, 0.8, and 0.6mm. Cheaper than buying singly! Cat T-4756

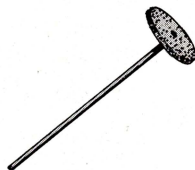
\$8⁹⁵ set



Grinding Bits

Shape, sand and grind your projects to perfection. 3 pieces, different shapes. Cat T-4758

\$14⁹⁵ set



Cutting Discs

Set of 6 mini cutting discs, with arbor, for cutting metal and plastic. Essential for the serious hobbyist. Cat T-4766

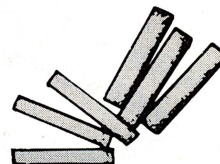
\$14⁹⁵ Set of 6



Engraving/ Milling Bits

Set of three cutters designed to make short work of any engraving or milling job. Fine and medium hex head plus fine round head. Cat T-4764

\$10⁹⁵

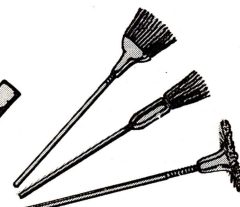


Erasers

Make short work of rubbing out! Two different types to cover both ink and pencil!

Set 5 ink Cat T-4760 **\$4⁹⁵**

Set 5 pencil Cat T-4762 **\$4⁹⁵**



Wire Brushes

Pack of 3 wire brushes for polishing, cleaning, etc. Cat T-4768

\$21⁹⁵

Arlec Mini Vice

Need a third hand? Here's one that won't let go! The mini vice from Arlec attaches to any table, desk, bench, etc. (up to about 40mm thick). 50mm wide jaws hold tight — opens up to around 60mm for those big jobs. More than strong enough for cutting, filing and other testing applications. Cat T-4748

Shipping Weight: 500g
Carton Size: 250 × 170 × 60mm

\$15⁹⁵



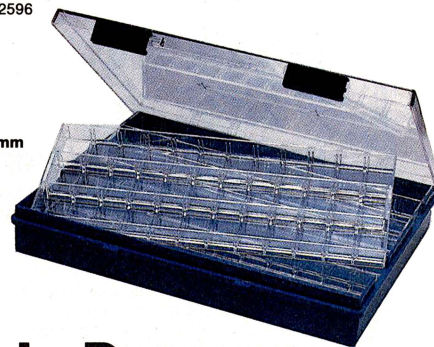
Compartment Case

Made of extremely strong plastic, with clear lid so you can see exactly what's inside. The internal compartment holders move so you can suit it to a huge variety of parts, nuts and bolts, bits and pieces, etc. Sliding catches ensure the lid stays closed: even if you drop it! Consists of case and two tiers of trays and one extra deep tray. Size 290 × 220 × 45mm. A must for the hobbyist. Cat H-2596

\$24⁹⁵

Shipping Weight: 902g
Carton Size: 290 × 220 × 45mm

Save \$23.00



Arlec — Easy Etch Engraver

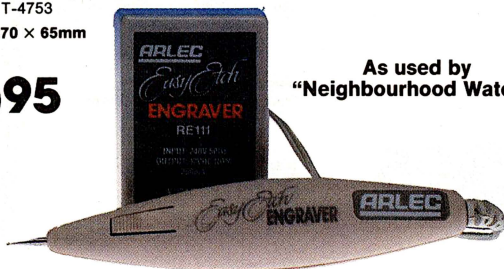
You know how easily tools and valuables go for a walk — never to be seen again! Well, here's a great way to identify them.

Steel bit lets you engrave metal, plastic, wood, etc with your name or a security number (your driver's licence number is a good one) for positive identification. Comes with 12V plug pack and long cord. Cat T-4753

Pack Size: 175 × 270 × 65mm

\$39⁹⁵

As used by
"Neighbourhood Watch!"



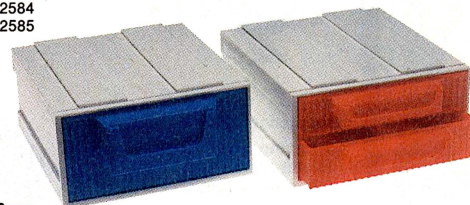
Stackable Drawers

Total flexibility: that's the superb drawer system from Dick Smith Electronics. Large (114 × 57 × 130mm) cases containing either one or two drawers. Precision dovetail system means you can stack them both vertically and horizontally. Large handle on each drawer plus index card slot.

One drawer per box: Cat H-2584
Two drawer per box: Cat H-2585

Both types:
\$4⁴⁵

Shipping Weight: 172g
Carton Size: 114 × 57 × 130mm



The Professional 'Pocket' Soldering System

The totally portable professional soldering system from Portasol. The equivalent of 10-60watts of power with temperature adjustment up to 400 degrees Celsius.

Just the thing for hobbyists, technicians, repairers... anyone who needs to make repairs, alterations, etc on the spot!

Look at what you get! —

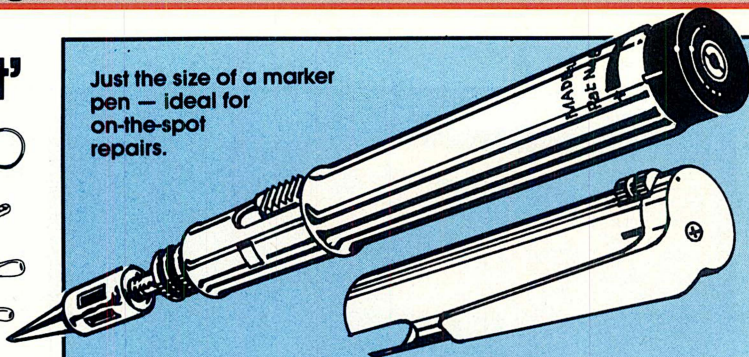
- Pocket sized, temperature adjustable iron
- 4 Tips including hot knife and blow torch!
- Tip cleaning sponge
- Heavy duty plastic case with clip-on iron stand
- Butane powered — refills in seconds
- Average 90 minutes continuous use

Cat T-1374 Spare tip to suit Cat T-1375 \$12.95



\$99⁹⁵

Just the size of a marker pen — ideal for on-the-spot repairs.



\$39⁹⁵ Butane Soldering Iron

Totally portable, 'all-in-one' soldering iron that fits easily in a shirt pocket... and it's made in Ireland — no joke! Uses refillable 'butane' — the type used in ordinary cigarette lighters. Provides an amazing 60 minutes continuous use at a full 60 watts. Simple 'finger-thumb' turn adjustable temperature control provides an equivalent to 10 to 60 watts: enough for a variety of repair jobs. Detachable cap features a built-in ignition system which uses replacement flints. Ideal for servicemen, handyman and hobbyists... the best thing to come out of Ireland since the 'snakes'! Cat T-1370

Unit size:
172mm long x 20mm diam

Shipping weight: 80g

Blister pack size:
100 x 300 x 25mm

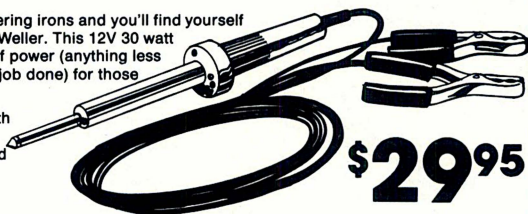
Spare tip to suit:
Cat T-1371 \$12.95

Quality 30 Watt 12 Volt Iron

Start talking quality soldering irons and you'll find yourself talking Australian made Weller. This 12V 30 watt model gives you plenty of power (anything less and you'd never get the job done) for those on-site repairs, etc.

Lightweight, it comes with 4.5 metres of cable, battery terminal clips and has replaceable tip.

Cat T-1320



\$29⁹⁵

Spare Tips To Suit. Cat T-1321/22 \$3⁹⁵ ea.

Varitemp Iron

The experts will tell you no two solder jobs are the same: some need high heat: use the same on some semis and you'll cook them! Here's the answer: Variable temperature — the right heat for every application! And the temperature adjustment is right there on the handle: that's convenient! Interchangeable tips means total flexibility. Cat T-1350

Features:

- 25 watts total capacity
- 240V operated
- Stainless steel
- Electricity Authority Approved

Accessories to Suit:

Spare Tip (medium) Cat T-1351 \$4.95

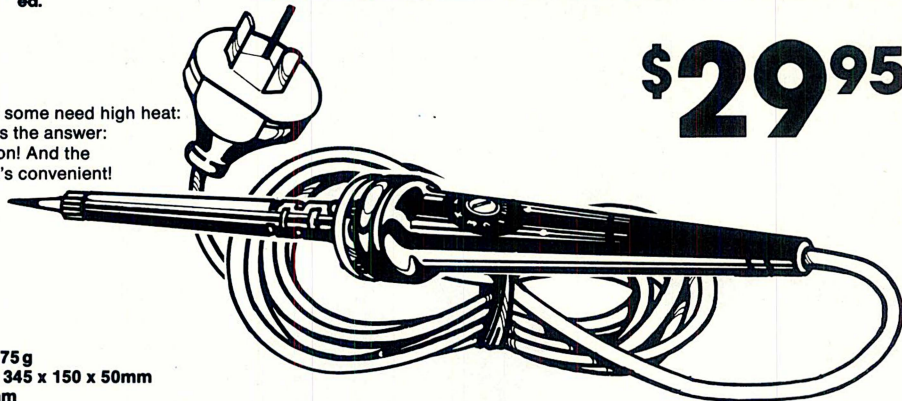
Spare Tip (large) Cat T-1352 \$4.95

Spare Tip (conical) Cat T-1353 \$4.95

Shipping weight: 75g

Blister pack size: 345 x 150 x 50mm

Iron length: 210mm



\$29⁹⁵

DSE Low Voltage Heavy Duty 12V Iron

30 watts capacity means this iron is ideal for all those electrical repair jobs around the car, caravan, etc. Comes complete with 2 metre cable car cigarette lighter plug, ready for instant use. Or use it around the home with virtually any 12V supply — AC or DC (anything over 2.5A is ideal). Balanced grip and lightweight, great for pcb assembly and other general electronics work too. Cat T-1910

\$9⁹⁵

Iron length: 230mm
Shipping weight: 120g
Blister pack size:
300 x 160 x 30mm

Tip to suit Cat T-1913 \$1.50



DSE Mini

Super slim 6W iron — with quick heating capability — just the thing for precision soldering on computers, PCBs, etc. Even plugs into your car's cigarette lighter with optional cigarette lighter plug for easy auto repairs. Low voltage: 12V AC or DC @ 500 mA. Cat T-1920

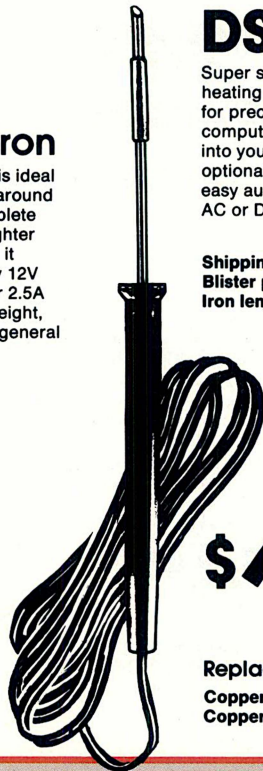
Shipping weight: 45g
Blister pack size: 272 x 77 x 25mm
Iron length: 150mm

\$19⁹⁵

Replacement Tips

Copper Wedge Cat T-1921 \$3.95

Copper Conical Cat T-1922 \$3.95



DSE Hobby Iron

A general purpose mains-powered iron for project building, service and repairs and other low-heat work. Iron element is rated at 15 watts so is ideal for the hobbyist — too much heat cooks some components! Made for DSE by Weller, iron comes in blister pack complete with detailed soldering hints on back. Cat T-1310

\$22⁹⁵

Shipping weight: 233g
Pack size: 110 x 300 x 40mm



Spare tips to suit:

Pack of two. Cat T-1312 \$4.95



SCOPE Irons



Miniscope

Lightweight and a delight to handle and use, the Miniscope is perfect for general service work, kit building, etc. Finger tip control gives precise temperature — the equivalent of irons in the 10 to 70 watt range. Use Scope transformer for correct operation. With spare tip and element. Cat T-1660

Needs 3.3V @ 30A. See Scope Transformer below.

Shipping weight: 132g

Blister pack size: 350 x 150 x 40mm

\$52⁹⁵

Superscope

The world-famous Australian! Scope irons are ideal for the hobbyist, the work bench, the lab — everywhere. Because they're made tough to take it, they can! Huge 150 watt capacity and it delivers heat from cold in just six seconds. You dictate the temperature you want. Stainless steel non-corrosive barrel. With spare tip and element. Cat T-1605

Needs 3.3V @ 30A. See Scope Transformer below.

Shipping weight: 153g

Carton size: 330 x 150 x 40mm

\$52⁹⁵

Scope Cordless Solder Gun

For soldering where you want it, when you want it. Powerful enough to handle the same jobs as 60W mains irons, but inbuilt NiCads give you up to 100 solder joints away from power points and extension cords. Includes plugpack for overnight charging; heats in just six seconds and takes standard Miniscope spares. Supplied with charger, two spare elements and two spare bits. Cat T-1600

Shipping weight: 66g

Carton size: 70 x 50 x 30mm

\$129

Scope Transformer
3.3V at 30A
(int)

Made just for Scope Irons — low voltage means less danger of damage to sensitive components. And there's an electrostatic shield for even more protection. Tough polypropylene case complete with iron rest. Cat T-1692

Shipping weight: 1.7kg

Carton size: 163 x 83 x 105mm

\$59⁹⁵

Adcola RS-30

Reliable iron for general service or production area and ideal for the hobbyist. High impact orange plastic handle and complete with Triclad 3mm long life tip. Cat T-1820

Shipping weight: 220g

Blister pack size: 340 x 140 x 50mm

Iron length: 205mm

12 Watts

\$34⁹⁵

Adcola RS-50

For those heavier soldering jobs this Adcola is ideal: service work, assembly, etc. Has heavier element for more power (16 watts) and a larger long life Triclad 5mm tip. Thousands of Adcolas are used in electronics every day. Cat T-1825

Shipping weight: 225g

Blister pack size: 345 x 145 x 50mm

Iron length: 205mm



16 Watts

\$39⁹⁵

Adcola Duotemp

Professional quality — at a hobbyist price. The Duotemp has two temperature settings — normal for everyday service and assembly work, plus a bush button "boost" for fast heating or heavy duty soldering. And a variety of tips for specialist applications is available. If you don't need a variable temperature iron, the Duotemp could be just what you need. Rated at 21 watts, 240V AC. Cat T-1830

Shipping weight: 227 g Carton size: 345 x 145 x 50mm

\$49⁹⁵



DSE Solder Station

A professional soldering station at a hobbyists price!

If you're serious about good soldering, there is only one way to do it — with a temperature controlled soldering iron. Until now, temperature controlled irons have been expensive. But Dick Smith Electronics have solved the problem! The DSE Auto Temp offers you the best quality at an unbelievable low price. Features fully variable temperature control (from around 200° to over 500° Celcius) with a temperature meter to show you what's happening. And it's fully approved by the Energy Authority. The station comes complete with lightweight iron holder and cleaning sponge, with a comprehensive instruction manual with full servicing information included — just in case you need it. Cat T-2000

Shipping weight: 1.75kg

Carton size: 225 x 90 x 180mm

\$129

Quality Accessories to suit

Tip medium chisel Cat T-2002 \$5.95

Tip thick chisel Cat T-2004 \$5.95

Tip fine conical Cat T-2006 \$5.95

Element and barrel Cat T-2008 \$19.95

Sponge replacement Cat T-2010 \$1.95

Tips for older stations:

Tips with solder to suit earlier model

Medium Cat T-2003

Thick Cat T-2005

Fine Cat T-2007

All one price

\$6⁵⁵

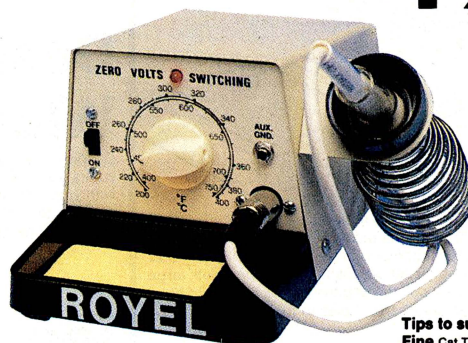
Royel Professional Soldering Station

When quality really counts you need the best you can get. Royel is it: temperature sensing is done right at the tip for instant reaction — and the zero voltage switching regulator means no interference and perfect control. Cat T-2050

Complete station includes:

- Control Unit with 200° to 400°C range
- CT6-1 pencil iron with "Armclad" tip and rating equivalent to 50 watt conventional irons
- Solder iron stand
- Auxiliary ground clip lead
- Sponge & well
- Instructions

\$199



Shipping weight: 2.6kg

Carton size: 310 x 295 x 155mm

Tips to suit:

Fine Cat T-2051

Standard Cat T-2053

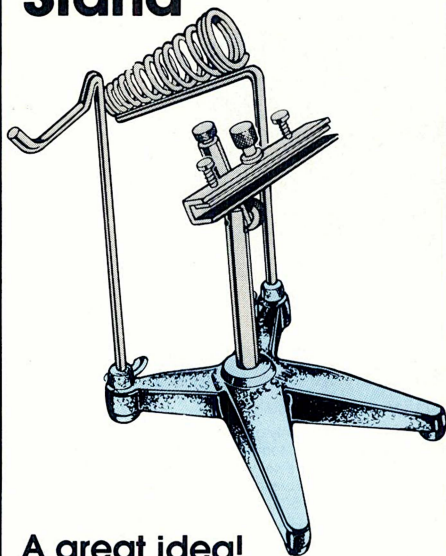
Large (Bevelled) Cat T-2054

All one price

\$5⁹⁵ ea

STANDS

Multi-purpose Stand



A great idea!
Leaves both hands free.

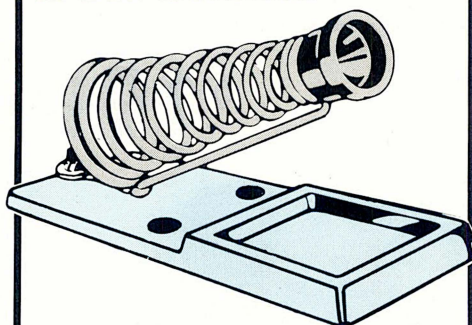
Holds boards or components firmly in rubber faced vice. Angle of vice may be varied widely in three dimensions for greater accessibility to board. Convenient soldering iron holder also adjustable. Adjustable spool holder for solder & desoldering wick. Ideal for the hobbyist or professional. Leaves both hands free. Cat T-5700

Half Price **\$34⁹⁵**

Shipping weight: 1.7kg

Carton size: 250 x 185 x 45mm

Soldering Iron Stand



Few things are more dangerous than a hot soldering iron left on a bench! Solve the problem with the DSE soldering iron stand. Suits most medium size irons — DSE or other brands. Very stable cast base with tip cleaning well, large plated spring steel coil to keep the hot tip safely out of harms way. Base has screw holes to fix to bench if required. Cat T-1302

Replacement Sponge
Cat T-2010 **\$1.95**

Shipping weight: 305g

Carton size: 160 x 65 x 122mm

\$7⁹⁵

Soldering Accessories

Desoldering Bulb

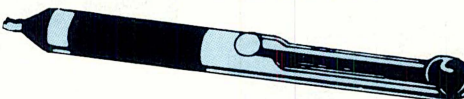
\$12⁹⁵

Simple and efficient. Simply squeeze bulb, hold up to molten solder and release bulb. Solder is sucked straight up. Use for blow cooling too! Cat T-2580

Shipping weight: 58g

Carton size: 135 x 40 x 40mm

Solder Sucker



A rugged all metal construction solder sucker complete with Teflon tip and a nozzle sweeper as well. Light thumb release mechanism for the removal of solder from the board. Don't pay twice the price — a top quality import from Dick Smith Electronics. Cat T-2560

Spare Teflon Tip to suit \$3.95
Cat T-2565

\$9⁹⁵

Shipping weight: 110g

Pack size: 88 x 320 x 25mm

Soldering Aid Set



\$4⁹⁵

For anyone working with pcb's this is an essential part of the tool kit. In a handy plastic pouch, you get:

- Fine point and slotted end probe
- Scraper end and wire brush probe
- Angled scriber and scraper probe
- Aluminium heatsink

Protect your valuable components while soldering — and make solder joints that last — with this low-cost set. Cat T-2605

Pack size: 190 x 95 x 10mm

Shipping weight: 55g

Desoldering Wick

Desoldering made simple! Specially treated copper braid soaks up solder like blotting paper... just melt the solder with your iron and apply the braid. Capillary action takes the solder into the braid — just cut off the solder-filled section. Very convenient roll package. Cat N-1682

\$2⁹⁵

10 up \$2.65

Shipping weight: 156g
Carton size: 160 x 20mm



Solder



Hobby Packs

Just the right amount of solder for the average project (eg an amplifier board, alarm, etc). And because some constructors favour a thicker gauge, we have both 0.71mm and 1.25mm packs. Top quality electronic grade (Corrosion free) flux-cored 60/40 solder.

0.71mm (22g) hobby pack

(9 metre length) Cat N-1636

Shipping weight: 30g

Both sizes:

\$1⁹⁵

1.25mm (17g) hobby pack

(4 metre length) Cat N-1638

Shipping weight: 40g

10 up \$1.75



50mm Solder Rolls

Same solder as in above hobby packs, but on 200g bulk rolls. Ideal for the workshop, lab, production line, etc.

50mm roll containing **200 grams of 0.71mm (22g) solder.**
Cat N-1623

Both sizes:

\$7²⁵

each

50mm roll containing **200 grams of 1.25mm (17g) Solder.**
Cat N-1619

5 up \$6.00

Complies to AS1834 Australian Standard

ALU-SOL

Aluminium-based solder for soldering dissimilar metals — particularly aluminium and alloys. (If you've ever tried it with conventional solder you'll know how hard it is to do!) Alu-Sol is specially made for the purpose — it requires no other flux or special preparation. All you need is a good, hot iron (hotter than normal soldering).

50mm roll containing **100 grams of**

1.6mm (15g) Solder.

Cat N-1625

\$11⁹⁵

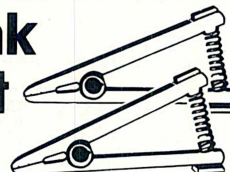
Shipping weight: 110g

10 up \$10.95



Heatsink Clip Set

\$6⁹⁵



Spring loaded, plier grip clips for heat sensitive components and leads. Made of aluminium for high thermal conductivity, 2 types one straight and one angled, both 75mm long! Cat T-2620

Shipping weight: 20g

Carton size: 170 x 80 x 0.5mm

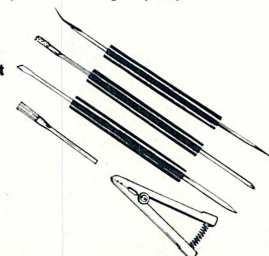
Top Quality Solder Aid Set

When there's no room for error with your PCB work and you need to be certain the job's right — you'll want the best quality tools.

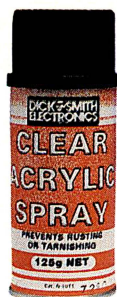
You can even use this one for re-stringing dials, made from the highest quality materials so you know it'll give you years of reliable service. Cat T-2610

Contains:

- Guide fork tool
- Reamer point and knife point
- Scriber
- Heatsink clip
- Stainless steel bristle brush
- In handy plastic pouch



\$19⁹⁵



Clear Acrylic Spray

A fine colourless spray that is ideal for the protection of front panels, etched screen print or Letraset lettering. Will moisture proof components. TV aerial terminations etc. 125g can. Cat N-1011

\$5⁹⁵



Matte Black Spray Paint

A quick drying matte finish paint, also ideal for touch-up. Gives your project a really professional finish. Also used to increase thermal efficiency of plain aluminium heatsinks. Great for car touch-up too. 175g spray can. Cat N-1070

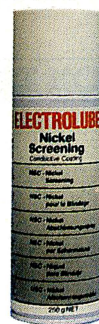
\$3⁹⁵



Matte Silver Spray Paint

Anti-glare silver paint for a smooth, elegant finish to that special project. Quick drying paint is ideal for front panels, cases, etc. 150g spray can. Cat N-1076

\$2⁹⁵



Nickel Screening Spray Paint

A nickel-based paint coating for electromagnetic and radio frequency interference (EMI/RFI) applications. Resistivity of 0.7 ohms per square metre at 50 microns thickness. Takes to large range metals, plastics, etc. 200g spray can. Cat N-1049

\$26⁹⁵



Electronic Cleaning Solvent

A highly efficient, high pressure solvent highly recommended for cleaning tuners, switches, plugs and sockets, commutators, potentiometers, relays, etc. Non-corrosive, low toxicity. Complete with long tube. 300g spray can. Cat N-1040

\$7⁵⁰



Spray Cleaner

Non-toxic, non-explosive and non-flammable cleaning and degreasing spray. It leaves no residue so is suitable for electronic and electrical components as well as computer, tape recorder, VCR's, etc. Complete with long range nozzle. 250g spray can. Cat N-1051

\$4⁹⁵



Electrolube 2X Lube Pen

The state of the art electro-mechanical lubricant, packaged in pen form with a pocket clip. The pack has a unique retractable tube system to reach into those inaccessible areas. Non-drying lubricant for use with electronic gear, automotive, office and domestic equipment, etc. Ideal for servicemen. Cat N-1047

\$6⁵⁰



CRC 2-26 Spray

A moisture removing, cleaning pressure pack. Not only does it clean, but it also leaves a film of protecting silicone that does not dry out. Ideal for pots, switches and contacts. Ideal for loosening stubborn nuts and bolts. Will protect your car from salt and moisture. Use it on the ignition system to stop frustrations during wet weather starts. 400g. Cat N-1060

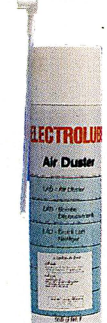
\$12⁵⁰



Circuit Lacquer

A specially formulated spray for the protection of PC boards. This is a solder through lacquer so boards previously sprayed with PCL-2 can be soldered in service. 350g spray can. Cat N-1045

\$8⁷⁵



Air Duster

550g of high pressure inert gas for cleaning circuit boards, equipment, etc. Ideal for those places you can't get to with a brush or where there's a big risk of damage. Cat N-1050

\$15⁹⁵



Butane Gas Refill

Just like the one you use for your cigarette lighter! 100g economy butane refill that's ideal for your Portasol soldering iron or any butane powered device. Cat N-1081

\$2⁹⁵



Heat Sink Compound

This heat transfer compound is applied to the base and mounting studs of transistors and diodes. It is also an effective thermal coupler for any heatsink device where efficient cooling is required. Cat N-1205

\$2⁵⁰



Heat Transfer Compound

From Electrolube, specialists in chemical service aids to the electronics industry. Heat transfer compound comes in 10ml syringe for easy application. Cat N-1200

\$5⁹⁵
Non silicon
Non metallic



Spray Freezer

Instantly freezes components down to minus 50 degrees Celsius! Ideal for servicing electrical & electronic equipment with intermittent problems. Also shrinks shafts, bushes, etc; cools components while soldering. Complete with long reach tube. 350g spray can. Cat N-1056

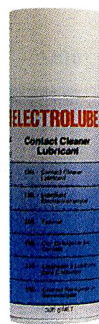
\$6⁵⁰



Permagard Moisture Displacement

Displaces water and moisture, penetrates, lubricates and provides protection against corrosion. In 250g spray can. If you've already got some in the workshop — put some in the car! Cat N-1065

\$7⁵⁰



Contact Cleaner Lubricant

Improves electrical contact, reduces wear, suppresses arcing, loosens sulphide and tarnish film, inhibits corrosion and maintains stable low contact resistance. In handy 300g can with spray tube. Cat N-1042

\$7⁹⁵



Flux Remover

Cleaning excess flux of pcb's used to be a chore: not any more! Spray flux remover dissolves flux, makes it simple to remove. Service work, technicians — remove the flux that hides a dry joint. Hobbyists: remove the flux from messy solder jobs! Large 400g spray can. Cat N-1055

\$10⁹⁵



Super Glue 5000!!

Instant repairs for thousands of applications. No clamping, no fuss. Super Glue in 3ml tube. Cat N-1220

\$2⁹⁵



Silastic 732RTV

Adheres to and seals/insulates just about anything. Acid curing for an economical joint in rubber, wood, metal, glass, plastic, etc. 75g tube. Cat N-1225

\$5⁹⁵



Silastic 738RTV

When you need a specialist sealant where corrosion or high current is a concern then this Neutral Cure Silastic is just the answer! 85g tube. Cat N-1226

\$12⁹⁵

Green/Yellow Cat N-1359
Orange Cat N-1360
Red Cat N-1361
Black Cat N-1362
Brown Cat N-1363
Blue Cat N-1364



Coloured Insulation Tape

Six colours to choose from! 18 metre rolls by 19mm wide for insulating and harnessing wire and looms. Just the thing for colour coding wire. Looks good but doesn't last on the garden hose. Cat N-1359/64

\$1 10 up 90¢ ea.



Heat Shrinkable Tape

Just wrap it on wire or joints, apply heat and it becomes permanent, tight fitting insulation. Rolls of 10ft in black. 19mm wide. Cat N-1365

\$12⁹⁵

SILICON TRANSISTORS

Type No.	Cat No.	Price Ea	Price 10 up	Pol	Vce	Ic (mA)	P(tot) (mW)	Ft (MHz)
BC159	Z-1359	.20	.15	PNP	20	100	300	150
BC327	Z-2240	.35	.30	PNP	45	800	800	100
BC328	Z-2242	.30	.25	PNP	25	800	800	100
BC337	Z-2190	.30	.25	NPN	45	800	800	200
BC338	Z-2252	.30	.25	NPN	25	800	800	200
BC107	(See DS547)							
BC108	(See DS548)							
BC109	(See B549)							
BC179	(See BC159)							
BC549C	Z-1329	.40	.35	NPN	30	100	500	300
BC639	Z-1388	.65	.55	NPN	80	1A	1W	130
BC640	Z-1389	.65	.55	PNP	80	1A	1W	50
BD139	Z-1443	.95	.85	NPN	60	1A	8W	250
BD140	Z-1444	.95	.85	PNP	80	1A	8W	75
BD262	(See BD682)							
BD263	(See BD681)							
BD681	Z-1462	\$1.95	\$1.75	NPN	100	4A	40W	1
BD682	Z-1460	\$1.95	\$1.75	PNP	100	4A	40W	1
BUX80	Z-2150	\$7.95	\$7.50	NPN	400	10A	100W	8
BF115	Z-1560	\$2.25	\$2.15	NPN	30	30	145	230
BF184	Z-1604	\$1.95	\$1.75	NPN				
BF199	(See BF173)							
BF469	Z-1635	\$1.75	\$1.60					
BF470	Z-1636	\$1.75	\$1.60					
BFR91	Z-1691	\$1.95	\$1.75	NPN	12	36	180	5GH
DS547	Z-1300	.15	.12	NPN	45	100	500	300
DS548	Z-1308	.15	.12	NPN	30	100	500	300
DS549	Z-1319	.15	.12	NPN	30	100	500	300
DS557	Z-1340	.15	.12	PNP	45	100	300	150
DS558	Z-1348	.15	.12	PNP	25	100	300	150
MJ2955	Z-1800	\$2.95	\$2.75	PNP	60	15A	115W	4
MJ15003	Z-1808	\$9.25	\$8.75	NPN	140	20A	250W	2
MJ15004	Z-1810	\$9.25	\$8.75	PNP	140	20A	250W	2
MJE340	Z-2010	\$2.25	\$1.95	NPN	300	500	20W	-
MJE2955	Z-2005	\$2.25	\$1.95	PNP	60	10A	75W	2
MJE3055	Z-2008	\$1.95	\$1.75	NPN	60	10A	75W	2
MRF660	Z-2508	\$34.95	\$32.95					
PN3563	Z-2180	.60	.50	NPN	12	50	200	600
PN4258	Z-2326	.70	.60	PNP	12	50	200	700
TIP31B	Z-2020	\$1.95	\$1.75	NPN	80	3A	40W	3
TIP32B	Z-2024	\$1.75	\$1.60	PNP	80	3A	40W	3
TT797	(See 2N4030)							
TT800	(See 2N4030)							
TT801	(See 2N3019)							
2SC710	Z-2512	\$1.95	\$1.75					
2SC1096	Z-2500	\$2.95	\$2.65	NPN	30		10W	60
2SC1674	Z-6005	\$1.45	\$1.30	NPN	20		250	600
2SC2166	Z-2501	\$8.95	\$8.50	NPN	30		20W	150
2SC1969	Z-2502	\$5.75	\$5.25	NPN	75	4A	1.5W	
2SC2694	Z-2505	\$39.95	\$37.95	NPN	20	20	75W	175
2SC3355	Z-6006	\$1.95	\$1.75	NPN				
2SC3358	Z-6007	\$1.95	\$1.75	NPN				
2N2222A	Z-2069	.95	.85	NPN	40	800	500	300
2N3019	Z-2068	\$1.95	\$1.75	NPN	30	1A	800	100
2N3055	Z-1804	\$2.50	\$2.25	NPN	40	700	2.86	100
2N3904N	Z-2070	.45	.30	NPN	60	15A	115W	.08
2N3905A	Z-2071	.45	.30	PNP	40	200	310	200
2N3948	Z-2260	\$5.95	\$5.90					
2N4292	(See PN3019)	-	-	PNP	60	1A	800	100
2N4427	Z-2506	\$4.25	\$4.10	NPN	20	400	315	500

FIELD EFFECT TRANSISTORS

Type No.	Cat No.	Price Ea	Price 10 up	Pol/ Const	Vgss V@lg(uA)	Vgs (off) Min	Vgs (off) Max @	Vds
MFE131	Z-1849	\$3.25	\$2.95	NCH MOS				
MPF102	Z-1832	\$1.35	\$1.20	NCH J	25	10	0.5	15
MPF106	Z-1840	\$1.40	\$1.30	NCH J	25	1	0.5	15
2N5245	Z-2335	\$1.75	\$1.50	NCH J	30	1	1	15
2N5484	Z-2340	\$1.10	\$1.00	NCH J	25	1	0.3	15
2N5486	Z-2073	\$1.15	\$1.05	NCH J	25		2	15

GERMANIUM TRANSISTORS

Type No.	Cat No.	Price Ea	Price 10 up	Pol	Vce	Ic (mA)	P(tot) (mW)	Ft (MHz)
AC187	Z-1080	\$2.25	\$2.00	NPN	15	1A	1W	1
AC188	Z-1082	\$2.95	\$2.65	PNP	15	1A	220	1

POWER MOSFETS

Type No.	Cat No.	Price Ea	Price 10 up	Pol/ const.	Vdss (min) V @ Id	Id (max) A
2SJ48	Z-1816	\$9.95	\$9.05	PCH MOS	-120 -10mA	-7
2SK134	Z-1815	\$8.95	\$8.15	NCH MOS	120 10mA	7

GaSaFETS

3SK 121	Z-1845	\$5.95	\$5.50			
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SILICON SMALL SIGNAL DIODES

IN914	Z-3120	.05	.04			
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SILICON RECTIFIER DIODES

Type No.	Cat No.	Price Ea	Price 10 up	PIV	If mA	Use
IN4002	Z-3202	.10	.08	100	1	General Purpose
IN4004	Z-3204	.10	.08	400	1	General Purpose
IN4007	Z-3207	.15	.13	1000	1	General Purpose
IN5404	Z-3222	.35	.30	400	3	General Purpose
IN5408	Z-3228	.45	.40	1000	3	General Purpose
BYX98300	Z-3242	\$5.95	\$5.50	300	10	Stud Mount

RECTIFIER BRIDGES

WO-4	Z-3304	.95	.85	400	1.5	Mini Bridge
PO-4	Z-3306	\$2.75	\$2.40	400	6	General Purpose Bridge
PB40	Z-3334	\$6.25	\$5.75	400	25	Heavy Duty Bridge

GERMANIUM DIODES

Type No.	Cat No.	Price Ea	Price 10 up	PIV	If mA	Use
OA47	Z-3232	\$1.45	\$1.25	25	110	Gold Bonded General Purpose
OA95	Z-3050	\$1.25	\$1.10	90	50	General Purpose Point Contact

HOT CARRIER DIODES

		Price Ea	Price 10 up
5082-2800	Schottky diode	\$2.50	\$2.30

POWER TRANSISTOR SOCKETS

Type		Cat No.	Price Ea	Price 10 up
TO-5	(suit 2N3053 etc)	P-4015	.95	.85
TO-3	(suit 2N3055 etc)	P-4023	.95	.85



LIGHT EMITTING DIODES

Type No.	Colour	Size	Cat No.	Price Ea	Price 10 up	If (mA)	Vf @ 20mA	Intensity @ 20mA	Notes
ESBR5501	Grn/Red	5mm diam	Z-4070	.75	.65	50	1.7	200mCd	High Intensity
TL4211	Red	5mm diam	Z-4075	\$1.75	\$1.65	40	2.1	3.5mCd	Premium Quality
TL4231	Green	3mm diam	Z-4077	.25	.20	40	2.1	5.0mCd	Premium Quality
TL4251	Yellow	3mm diam	Z-4079	.30	.20	40	2.1	5.0mCd	Premium Quality
TL4291	Orange	3mm diam	Z-4081	.30	.25	40	2.1	5.0mCd	Premium Quality
TL4213	Red	5mm diam	Z-4083	.35	.30	40	2.0	7.0mCd	Premium Quality
TL4233	Green	5mm diam	Z-4085	.40	.35	40	2.1	4.0mCd	Premium Quality
TL4253	Yellow	5mm diam	Z-4087	.50	.45	40	2.1	6.0mCd	Premium Quality
TL4293	Orange	5mm diam	Z-4089	.50	.45	40	2.0	6.0mCd	Premium Quality
TL3215S	Red	2mm diam	Z-4091	.50	.45	40	2.1	9.0mCd	Premium Quality
TL3235S	Green	2mm diam	Z-4093	.60	.55	40	2.1	1.2mCd	Rect. Prem. Qual.
TL3255S	Yellow	2mm diam	Z-4095	.60	.55	40	2.1	1.2mCd	Rect. Prem. Qual.

LIQUID CRYSTAL DISPLAYS

Type No.	Digit Size	Construction	Cat No.	Price Ea	Price 10 up
LCD4.5	10mm	4½ digit liquid crystal	Z-4175	\$16.95	\$16.25

LED 7 SEGMENT DISPLAYS

Type No.	Digit Size	Construction	Cat No.	Price Ea	Price 10 up
LT313	8mm	Common Cathode	Z-4103	\$2.75	\$2.50
LT312	8mm	Common Anode	Z-4117	\$2.75	\$2.50
FND560	13mm	Common Cathode	Z-4150	\$2.95	\$2.70
LT547E	13mm	Common Cathode	Z-4151	\$2.95	\$2.70
LTS546AR	13mm	Common Anode	Z-4145	\$2.95	\$2.70

SILICON CONTROLLED RECTIFIERS

Type	Vdrn	It(A) rms	Use	Cat No.	Price Ea	Price 10 up
C203B	200	0.8	Small Current	Z-4310	\$1.75	\$1.50
C106Y1	30	4	Sensitive Gate	Z-4315	\$1.35	\$1.20
C106D	400	4	Sensitive Gate	Z-4320	\$1.75	\$1.35
C122E*	500	8	AC Switch	Z-4332	\$3.45	\$3.25

* (May be supplied as BT151 or TIC126E with similar ratings)

TRIACS

Type	Vdrn	It(A) rms	Use	Cat No.	Price Ea	Price 10 up
SC141D	400	6*	AC Switch	Z-4510	\$2.45	\$2.25
(*)May be Q4006L4 or 2N6343, both 8A)						
SC151D	400	15S	AC Switch	Z-4520	\$2.95	\$2.70
(S)May be BT139/500 - 500V, 16A)						

TRIGGERING DEVICES

Type No.	Device Type/Description	Cat No.	Price Ea	Price 10 up
ST4	Assymetrical trigger diode — suitable trigger for SC141/151	Z-4740	\$1.95	\$1.50
MOC3021	Opto-coupled triac driver	Z-4516	\$3.45	\$3.05
BR100-03	Diac	Z-4710	.75	.65

TRANSMITTING VALVES

6146B, 6JS6C and 572B transmitting valves are no longer stocked in DSE stores, but are normally available as spare parts in our Service Centre. They may be ordered through any DSE store or direct from the Service Centre (see address on page 5.)

ULTRASONIC TRANSDUCERS

Highly sensitive transmit/receive pair for alarms, level detectors, TV remote control, etc. Data sheet available.



Transmitter: SCS-401 Cat L-7050 \$6.50 (10 up \$5.95)
Receiver: SCM-401 Cat L-7052 \$6.50 (10 up \$5.95)



ZENER DIODES

Type No.	Cat No.	Price Ea	Price 10 up	Voltage	Power
IN746	Z-3401	.25	.20	3.3V	400mW
IN750	Z-3403	.25	.20	4.7V	400mW
IN751	Z-3405	.25	.20	5.1V	400mW
IN752	Z-3407	.25	.20	5.6V	400mW
IN753	Z-3409	.25	.20	6.2V	400mW
IN957	Z-3411	.25	.20	6.8V	400mW
IN961	Z-3413	.25	.20	10V	400mW
IN963	Z-3415	.25	.20	12V	400mW
IN965	Z-3417	.25	.20	15V	400mW
IN4728	Z-3515	.35	.30	3.3V	1W
IN4730	Z-3519	.35	.30	3.9V	1W
IN4732	Z-3523	.35	.30	4.7V	1W
IN4733	Z-3525	.35	.30	5.1V	1W
IN4734	Z-3527	.35	.30	5.6V	1W
IN4735	Z-3529	.35	.30	6.2V	1W
IN4736	Z-3531	.35	.30	6.8V	1W
IN4737	Z-3533	.35	.30	7.5V	1W
IN4738	Z-3535	.35	.30	8.2V	1W
IN4739	Z-3537	.35	.30	9.1V	1W
IN4740	Z-3539	.35	.30	10V	1W
IN4742	Z-3543	.35	.30	12V	1W
IN4744	Z-3547	.35	.30	15V	1W
IN4745	Z-3549	.35	.30	16V	1W
IN4746	Z-3551	.35	.30	18V	1W
IN4747	Z-3553	.35	.30	20V	1W
IN4749	Z-3557	.35	.30	24V	1W
IN4751	Z-3561	.35	.30	30V	1W
IN4752	Z-3563	.35	.30	33V	1W

VOLTAGE REGULATORS

Type No.	Description	Cat No.	Price Ea	Price 10 up
TO-92 CASE				
LM78L05CZ	3-Terminal 5V 100mA positive regulator	Z-6108	\$1.15	.95
LM78L12CZ	3-Terminal 12V 100mA positive regulator	Z-6110	\$1.15	.95
LM78L15CZ	3-Terminal 15V 100mA positive regulator	Z-6111	\$1.15	.95
TO-220 CASE				
7805	3 terminal 5 volt 1A positive regulator	Z-6545	\$1.15	.95
7812	3 terminal 12 volt 1A positive regulator	Z-6552	\$1.15	.95
7815	3 terminal 15 volt 1A positive regulator	Z-6554	\$1.15	.95
7905	3 terminal 5 volt 1A negative regulator	Z-6555	\$1.35	\$1.15
7912	3 terminal 12 volt 1A negative regulator	Z-6556	\$1.35	\$1.15
7915	3 terminal 15 volt 1A negative regulator	Z-6557	\$1.35	\$1.15
LM350	Adjustable 1.2-32V 3A regulator	Z-6561	\$7.95	\$7.15
LM317/T	Adjustable 1.2-37V 1.5A regulator	Z-6541	\$2.75	\$2.50
TO-3 CASE				
LM350	Adjustable 1.2-32V 3A regulator	Z-6560	\$9.50	\$8.95
LM317/K	Adjustable 1.2-37V 1.5A regulator	Z-6542	\$6.95	\$6.50
DIL OR ROUND CASE				
LM723	Adjustable 2-37V 150mA regulator	Z-6362	\$1.65	\$1.45

UNIJUNCTIONS

Type No.	Device Type/Description	Cat No.	Price Ea	Price 10 up
2N6027	Programmable unijunction (sim. D13T1)	Z-1780	\$1.15	\$1.05
DS2646	Unijunction (similar 2N2646)	Z-1786	\$1.95	\$1.70

OPTO-ELECTRONICS

Type No.	Device Type/Description	Cat No.	Price Ea	Price 10 up
FPT100	Silicon Photo Diode with lens	Z-1950	\$1.60	\$1.45
MEL12	Silicon Darlington phototransistor with lens	Z-1952	\$1.20	\$1.10
BPW50	Silicon Photo-diode	Z-1956	\$3.35	\$3.05
CQY89A/LD217	Infra-red LED	Z-3235	\$1.25	\$1.15
DSCD01	Cadmium Sulphide (CdS) light dependent resistor, similar range ORP12	Z-4801	\$1.25	\$1.15
4N28/4N25	Opto Coupler — LED & photo diode in DIP package	Z-4804	\$1.50	\$1.35

74C/4000 SERIES CMOS

Type No.	Description	Cat No.	Price Ea	Price 10 up
74C00	Quad 2 input NAND gate	Z-5410	\$1.25	\$1.10
74C14	Hex Schmitt trigger	Z-5413	\$1.50	\$1.35
74C926	4 decade counter 7 seg. output	Z-5414	\$15.95	\$14.95
4001	Quad 2 input NOR gate	Z-5601	.65	.60
4002	Dual 4 input NOR gate	Z-5602	.60	.50
4007	Dual comp pair with inverter	Z-5607	.80	.65
4009	Hex inverter buffer/level shift	Z-5609	\$1.35	\$1.25
4011	Quad 2 input NAND	Z-5611	.70	.65
4013	Dual D edge triggered flip flop	Z-5613	.90	.80
4015	Dual 4 bit shift register	Z-5615	\$1.45	\$1.30
4016	Quad analog switch	Z-5616	\$1.45	\$1.30
4017	Decade counter/divider	Z-5617	\$1.45	\$1.30
4019	Quad AND/OR select gate	Z-5619	\$1.15	.95
4020	14 bit binary counter	Z-5620	\$1.65	\$1.55
4022	Divide by 8 counter	Z-5622	\$1.85	\$1.65
4023	Triple 3 input NAND gate	Z-5623	.95	.85
4024	7 stage ripple counter	Z-5624	\$1.15	\$1.05
4025	Triple 3 input NOR gate	Z-5625	.80	.75
4026	Decade counter/7 segment divider	Z-5626	\$3.65	\$3.40
4027	Dual J-K flip flop	Z-5627	\$1.15	.95
4028	BCD to decimal decoder	Z-5628	\$1.65	\$1.45
4029	Preset up/down binary decade counter	Z-5629	\$1.75	\$1.65
4030	Quad EXCLUSIVE OR gate	Z-5630	.95	.80
4040	12 stage ripple counter	Z-5640	\$1.65	\$1.50
4044	Quad R/S flip-flop	Z-5644	\$1.45	\$1.25
4046	Phase-locked-loop	Z-5646	\$1.95	\$1.75
4047	Monostable/Astable multivibrator	Z-5647	\$1.95	\$1.75
4049	Hex inverter/buffer	Z-5649	\$1.00	.90
4050	Hex non inverting buffer	Z-5650	\$1.00	.90
4051	8 channel analog multiplexer	Z-5651	\$1.75	\$1.65
4066	Quad analog switch	Z-5666	\$1.15	\$1.05
4069	HEX inverter	Z-5669	.80	.75
4071	Quad 2 input OR gate	Z-5671	.90	.75
4081	Quad 2 input buffered AND gate	Z-5681	.85	.75
4082	Dual 4 input AND gate	Z-5682	.80	.75
4093	Quad 2 input NAND Schmitt trigger	Z-5693	\$1.40	\$1.20
40194	4 bit bi-direct shift register	Z-5694	\$3.75	\$3.40
4511	BCD/7 segment decoder/driver/latch	Z-5730	\$2.45	\$2.20
4516	Presetable up/down counter	Z-5738	\$2.95	\$2.50
4518	Dual BCD up counter	Z-5740	\$2.15	\$1.95
4520	Dual binary up counter	Z-5742	\$1.95	\$1.75
4526	4 bit programmable down counter	Z-5744	\$2.15	\$1.95
4528	Dual Monostable Multivibrator	Z-5748	\$1.95	\$1.75

74HC

Type No.	Description	Cat No.	Price Ea	Price 10 up
74HC00	Quad 2 input NAND gate	Z-5800	.95	.75
74HC02	Quad 2 input NOR gate	Z-5802	.95	.75
74HC04	Hex inverter	Z-5804	.95	.75
74HC08	Quad 2 input AND gate	Z-5808	.95	.75
74HC11N	Triple 3 input	Z-5811	.95	.75
74HC14	Hex Schmitt-Trigger	Z-5814	\$1.50	\$1.35
74HC27	Dual J-K flip flop	Z-5827	.95	.75
74HC30	8 input NAND gate	Z-5830	.95	.75
74HC32	Quad 2 input OR gate	Z-5832	.95	.75
74HC74	Dual D-type edge triggered flip flop	Z-5874	.95	.75
74HC76	Dual J-K master/slave flip flop	Z-5876	\$1.25	\$1.10
74HC85	4 bit magnitude comparator	Z-5885	\$1.95	\$1.75
74HC86	Quad 2 input EXCLUSIVE OR gate	Z-5886	.95	.80
74HC123	Dual re-triggerable monostable	Z-5910	\$2.90	\$2.70
74HC138	Expandable 3/8 decoder	Z-5915	\$1.25	\$1.10
74HC139	1 of 8 decoder/multiplexer	Z-5920	\$1.25	\$1.10
74HC157	Quad 2 input multiplexer	Z-5925	\$1.95	\$1.75
74HC165	Par load 8 bit shift register	Z-5930	\$2.25	\$2.05
74HC174	Hex D-type flip flop	Z-5935	\$1.95	\$1.75
74HC221	Dual mono multivibrators (S/trigger)	Z-5940	\$3.95	\$3.65
74HC244	Octal buffer/line driver	Z-5950	\$2.45	\$2.25
74HC245	Octal bus transceiver	Z-5955	\$2.95	\$2.70
74HC367	Hex bus driver & 3 state o/p	Z-5960	\$1.75	\$1.60

74LS SERIES

Type No.	Description	Cat No.	Price Ea	Price 10 up
74LS00	Quad 2 input NAND gate	Z-4900	.75	.70
74LS01	Quad 2 input NAND gate, o/collector	Z-4901	.75	.70
74LS02	Quad 2 input NOR gate	Z-4902	.75	.70
74LS04	Hex inverter	Z-4904	.75	.70
74LS05	Hex inverter, open collector	Z-4905	.75	.70
74LS08	Quad 2 input AND gate	Z-4908	.95	.85
74LS10	Triple 3 input NAND gate	Z-4910	.75	.70
74LS13	DL 4in NAND Schmitt trigger	Z-4913	.75	.70
74LS14	Hex Schmitt trigger	Z-4914	.85	.75
74LS20	Dual 4 input NAND gate	Z-4920	.80	.75
74LS21	Dual 4 input positive AND gate	Z-4924	\$1.25	\$1.15
74LS27	Triple 3 input NOR gate	Z-4927	.85	.75
74LS30	8 input NAND gate	Z-4930	.95	.80
74LS32	Quad 2 input OR gate	Z-4932	.95	.85
74LS37	Quad NAND buffer	Z-4937	.95	.85
74LS47	7 segment dec buffer	Z-4947	\$1.50	\$1.40
74LS54	2 way AND or inv	Z-4954	.95	.85
74LS73	Dual J-K flip flop	Z-4973	\$1.25	\$1.15
74LS74	Dual D-type edge trig. flip flop	Z-4974	\$1.15	\$1.05
74LS75	Quad bistable latch	Z-4975	\$1.45	\$1.25
74LS76	Dual J-K master/slave flip flop	Z-4976	\$1.20	\$1.10
74LS83	4 bit full binary array	Z-4983	\$1.95	\$1.75
74LS85	4 bit magnitude comparator	Z-4985	\$1.45	\$1.25
74LS86	Quad 2 input EXCLUSIVE-OR gate	Z-4986	\$1.25	\$1.15
74LS90	Decade counter	Z-4990	\$1.35	\$1.25
74LS95	4 bit L-R shift register	Z-4995	\$1.35	\$1.25
74LS109	Dual JK flip flop	Z-5109	\$1.15	\$1.05
74LS123	Dual monostable multivibrator	Z-5310	\$1.45	\$1.25
74LS132	Quad 2 input NAND Schmitt Trigger	Z-5283	\$1.95	\$1.85
74LS139	ONE OF EIGHT Decoder multiplexer	Z-5285	\$1.40	\$1.30
74LS153	Dual 4 input multiplexer	Z-5286	\$1.20	\$1.10
74LS157	Quad 2 input multiplexer	Z-5287	\$1.75	\$1.50
74LS165	Par Load Shift Register	Z-5288	\$2.45	\$2.20
74LS174	Hex D-type flip flop	Z-5290	\$1.40	\$1.20
74LS175	Quad D flip flop	Z-5291	\$1.50	\$1.35
74LS190	Up/down decade counter	Z-4999	\$1.85	\$1.70
74LS191	Up/down binary counter	Z-5191	\$1.85	\$1.70
74LS192	Sync dec up/down ctr	Z-5192	\$1.50	\$1.35
74LS193	Bin sync up/down ctr	Z-5193	\$1.85	\$1.65
74LS196	Decade counter	Z-5196	\$2.45	\$2.20
74LS221	Dual mono multivibrators (S/trigger)	Z-5296	\$2.25	\$1.95
74LS241	Octal buffer/line driver	Z-5293	\$2.25	\$1.95
74LS244	Octal buffer/line driver	Z-5294	\$2.75	\$2.50
74LS245	Octal bus transceiver	Z-5299	\$2.75	.50
74LS367	Hex bus driver & 3 stage o/p	Z-5292	\$1.15	\$1.05
74LS373	Octal 3 stage latch	Z-5295	\$2.45	\$2.20
74LS374	Octal D-type flip flop	Z-5297	\$2.45	\$2.20

LSI & SPECIAL DIGITAL

Type No.	Description	Cat No.	Price Ea	Price 10 up
XR2211	FSK Demod PLL IC	Z-2511	\$11.95	\$10.85
11C90	650MHz ECL pre-scaler	Z-5361	\$16.95	\$15.45
DS1488	RS-232C Quad line driver	Z-5370	\$1.95	\$1.75
ULN2232	Light motion detector IC	Z-6009	\$13.95	\$12.95
ICL7106	LCD digital voltmeter	Z-6300	\$15.95	\$14.95
LM1872N	Radio control receiver	Z-6104	.95	.85
8087-1	Maths 10MHz co-processor	Z-9107	\$799	
80287-3	Math Co-Processor	Z-9106	\$899	
8087-2	8MHz Math Co-Processor	Z-9105	\$599	
2732A	4K x 8 EPROM	Z-9209	\$10.95	\$9.95
HM6116P-4	2K x 8 CMOS Static RAM	Z-9308	\$7.95	\$7.45
Z-80CPU	Microprocessor CPU	Z-9100	\$4.95	\$4.45
2114	1K x 4 static RAM	Z-9306	\$3.95	\$3.75
4116	16K x 1 dynamic RAM	Z-9310	\$2.96	\$2.75
4164	64K x 1 dynamic RAM	Z-9312	\$7.95	\$7.45
41256	256K DRAM 120ns	Z-9313	\$24.95	\$25.95
4464	DRAM 120ns	Z-9316	\$29.95	\$28.95
41256	256K DRAM 150ns	Z-9315	\$27.95	\$26.95

VARIATORS

Contrary to what their name suggests, varistors are not resistors in the true sense, but a special type of semiconductor. They are used as protection devices in power supplied, etc. They are normally high resistance, but if their rated voltage is exceeded (eg by a spike, etc.) they rapidly become a low resistance device.

When placed across the supply rail, they have no effect until a spike occurs. They will then allow a high current to flow, blowing the fuse or tripping other protection devices.

Device	Rated Voltage	Cat No.	Price Ea	Price 10 up
V8ZA1	5V	R-1800	\$3.25	\$2.95
V275LA20A	275V	R-1802	\$3.95	\$3.50

(V275LA20A is ideal for use in 240-250 volt AC supply protection).

LINEAR & GENERAL PURPOSE

Type No.	Description	Cat No.	Price Ea	Price 10 up
ADC0802LCN	.8 bit A — D convertor	Z-6833	\$19.95	\$18.95
DAC0800LCN	8 bit D to A convertor	Z-6834	\$6.95	\$6.25
LM311	Voltage comparator	Z-6048	\$1.45	\$1.20
LM319N	High speed comparator	Z-6049	\$4.95	\$4.50
LM334Z	Temperature sensor/current source	Z-6810	\$3.45	\$3.20
LM335H	Precision temperature sensor (TO-46)	Z-6050	\$4.95	\$4.50
LM335Z	Precision temperature sensor (TO-92)	Z-6051	\$3.95	\$3.50
LM336BZ5-0	5V Reference source	Z-6037	\$5.95	\$5.80
LM339N	Quad comparator	Z-6039	\$1.10	.95
LM380	Audio power amplifier	Z-6080	\$2.65	\$2.50
LM382	Low noise stereo preamplifier	Z-6082	\$3.75	\$3.50
LM386	Audio power amplifier	Z-6086	\$1.95	\$1.70
LM394C	Dual diff. supermatched pair	Z-6083	\$8.45	\$7.95
LM567	Tone decoder	Z-6167	\$2.45	\$2.20
LM2917	Frequency to voltage/current source	Z-6112	\$3.95	\$3.50
LM3046N	NPN Transistor array	Z-6107	\$2.45	\$2.20
LM3909	LED flasher/oscillator	Z-6109	\$3.50	\$3.25
LM3914	10 LED driver	Z-6295	\$6.15	\$5.75
MC10116L	Triple differential amplifier	Z-5415	\$2.95	\$2.70
MC13020P	CQAM stereo AM decoder	Z-5420	\$8.95	\$8.25
NE/DS 555	Universal timer	Z-6145	.60	.50
NE556	Dual timer	Z-6146	\$1.25	\$1.15
OM350	Wideband VHF/UHF amplifier	Z-6185	\$15.95	\$13.95
SN76604N	Servo amplifier (RC)	Z-6835	\$6.95	\$6.75
TA7205	General purpose CB audio IC	Z-2503	\$6.95	\$6.35
TL555CP	Timer (CMOS version 555)	Z-6144	\$1.95	\$1.75
UPC1615G	10-100MHz 260B Amp IC	Z-6008	\$2.95	\$2.50
XR-2206	Function generator	Z-6820	\$11.95	\$10.95
ZN414Z	One-chip AM radio	Z-6520	\$2.95	\$2.75

LINEAR OPERATIONAL AMPLIFIERS

Type No.	Description	Cat No.	Price Ea	Price 10 up
CA3080	Transconductance op amp	Z-6024	\$2.95	\$2.20
CA3130T	Fet input op amp	Z-6025	\$4.95	\$4.50
CA3140	Fet input op amp	Z-5417	\$1.95	\$1.75
LM301	General purpose op-amp	Z-6040	\$1.25	\$1.10
LM308N	General purpose op-amp	Z-6045	\$1.95	\$1.75
LM324	Quad op amp	Z-6102	\$1.25	\$1.10
LM3900	Quad 'Norton' op amp	Z-6100	\$1.45	\$1.30
LM13600N	Dual transconductance amplifier	Z-6113	\$2.95	\$2.70
LM311N	Voltage comparator	Z-6048	\$1.45	\$1.20
LM1458N	Dual Op Amp	Z-6028	\$1.45	\$1.20
LM10CLN	Op amp/voltage ref	Z-6084	\$4.95	\$4.50
NE5534P	Low noise op amp	Z-6090	\$3.95	\$3.75
TL071CP	JFET op amp	Z-6030	\$1.45	\$1.20
TL072CP	Dual JFET op amp	Z-6032	\$1.95	\$1.75
TL074CP	Quad JFET op amp	Z-6034	\$4.95	\$4.50
TLC251	Prog. low power (CMOS) op amp	Z-6021	5.95	\$5.50
uA741	General purpose op amp	Z-6382	.95	.85
uA4136	Quad op amp	Z-6105	\$2.45	\$2.20

THERMISTORS

Thermistors are primarily heat sensing devices. The heat is normally generated within the device itself by the current flowing through it. As the heat changes, so does the resistance of the thermistor.

There are basically two types: NTC or negative temperature coefficient (an increase in temperature brings a decrease in resistance), or PTC (increase in temperature brings an increase in resistance.). Other more specialised types may even combine both characteristics.

General Purpose NTC Thermistor

Used in amplifiers, power supplies, etc. for temperature sensing purposes. Has 100k resistance at 25°C, with a -5.2% change per degree C. Thermal time constant 17 seconds, maximum dissipation 1/4W. Rated at 0 to 55 degrees C. Cat R-1797

10 up 90¢ **99¢**

"Polyswitch" PTC Thermistors

A failure in your amplifier can easily cause hundreds of dollars damage to your speakers. In the worst case, it could cause a fire.

For just a few dollars, you can protect your hi fi (and your home!) against this happening with Polyswitch PTC Thermistors.

At normal operating currents, they have very low resistance (see table). Once their rated current is exceeded, they go very high until the current drops to within rating. This makes them ideal for speaker protection and for many other "overload" applications.

Two type are available — to suit various types of systems. Installation is simple: they go in series with the individual speakers (ie, inside the speaker cabinet).

Device	Application	Nominal Resistance	Cat No.	Price Ea.	Price 10 up
RDE050	Tweeter	0.4 ohms	R-1798	\$5.95	\$5.50
RDE115A	Woofer/Midrange	0.12 ohms	R-1799	\$5.95	\$5.50

Prototype Breadboards

Now designing projects is so simple — with these prototype assembly boards. No more bird's nests. No more shorts. No soldering! Just plug the components and connection leads into the board. And if one board isn't enough, they can easily be paralleled up!

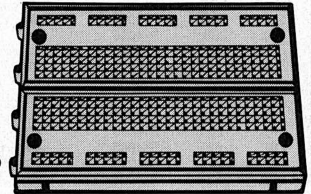
Mini Project Board

80 x 60 x 8mm board with 58 groups of 5 connected terminal points. Grid is laid out in alpha-numeric format for simple "track" identification, and the board is supplied with a pad of overlays so you can mark out circuitry for later use or for transferring to pcb/matrix board. Cat P-4614

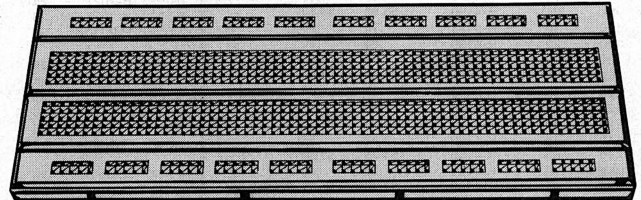
Shipping weight: 375g

Carton size: 230 x 180 x 25mm

\$10⁹⁵



Giant Project Board



Similar to above, but this one has a whopping 128 groups of terminal points. Overall board size 178 x 67 x 8mm, also has 8 bus lines of 25 connected terminals.

Dependable corrosion-free terminals for long life and circuit reliability. Cat P-4615

Shipping weight: 115g

Carton size: 180 x 70 x 20mm

\$18⁹⁵

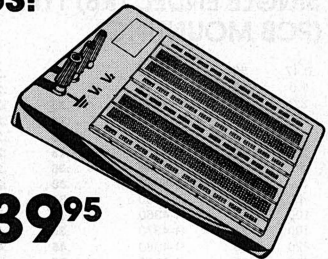
Project Boards PLUS!

A complete mini work bench! This one has 256 groups of 5 connected terminal points plus 16 bus lines of 25 connected terminals. But that's not all: the 130 x 170mm board is housed in a plastic "work bench" complete with three terminals (for power connection, input/output, etc). Overall size is 150 x 225 x 20mm. **BONUS:** Work pad included for circuit working. Cat P-4616

Shipping weight: 375g

Carton size: 230 x 180 x 25mm

\$39⁹⁵



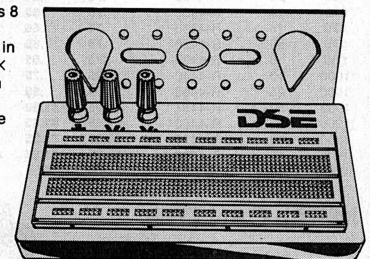
And one with a panel!

128 groups of five terminal points plus 8 bus lines of 25 points in a protoboard measuring 173 x 65 x 8mm. Housed in a plastic work bench measuring 115 x 190 x 15mm, complete with provision for a front panel with holes for pots, switches, even TO-3 transistors! Three terminals are also included for connection. Cat P-4617

Shipping weight: 245g

Carton size: 200 x 125 x 25mm

\$24⁹⁵



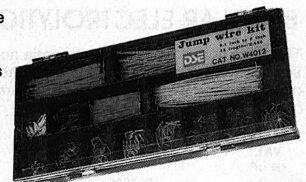
But how do you connect to 'em?

Prototype Boards are designed to accept standard component leads — resistors, capacitors, etc — so ordinary pigtailed are fine for small connecting leads. Any bigger... and you'll need the breadboard connector pack! Tough plastic case contains 14 different sizes of jumper from 2.5mm to 125mm in length, with 25 jumpers in each size. All sizes above 2.5mm are covered with different coloured pvc insulation for circuit identification and protection. Cat W-4012

Shipping weight: 30g

Pack size: 120 x 110mm bag.

\$24⁹⁵



CAPACITORS

ELECTROLYTICS

Electrolytics come in a range of different shapes and sizes but (with the exception of the bipolar type below) they have one thing in common: they are polarised and must be connected into circuit correctly. As you will note, very large capacitances are possible with electrolytic types.

AXIAL (RT) TYPE

VAL. IN uF	VOLT-AGE	CAT NO.	PRICE 1-9	PRICE 10 up
0.47	63	R-4010	.35	.30
1.0	350	R-4015	.35	.30
2.2	63	R-4020	.35	.30
3.3	25	R-4025	.45	.40
4.7	25	R-4030	.45	.40
4.7	63	R-4035	.45	.40
10	16	R-4055	.35	.30
10	25	R-4060	.45	.40
10	63	R-4065	.35	.30
22	25	R-4086	.35	.30
22	63	R-4091	.35	.30
33	16	R-4095	.35	.30
47	16	R-4105	.35	.30
47	25	R-4110	.35	.30
47	63	R-4115	.45	.40
47	350	R-4120	\$3.95	\$3.50
100	10	R-4125	.35	.30
100	25	R-4130	.45	.40
100	63	R-4135	.75	.65
100	350	R-4140	\$3.45	\$3.20
220	16	R-4145	.45	.40
220	25	R-4150	.55	.45
220	63	R-4155	\$1.45	\$1.20
470	16	R-4160	.70	.65
470	63	R-4165	\$1.75	\$1.50
1000	16	R-4175	.95	.80
1000	25	R-4180	\$1.45	\$1.30
1000	35	R-4185	\$1.85	\$1.60
1000	63	R-4190	\$2.75	\$2.50
2200	16	R-4196	\$1.35	\$1.20
2200	25	R-4201	\$1.95	\$1.70
2200	35	R-4206	\$2.65	\$2.40
2200	50	R-4211	\$3.25	\$2.95
4700	35	R-4215	\$4.95	\$4.65



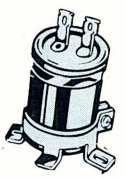
SINGLE ENDED (RB) TYPE (PCB MOUNTING)

VAL. IN uF	VOLT-AGE	CAT NO.	PRICE 1-9	PRICE 10 up
0.47	50	R-4290	.25	.20
1.0	50	R-4295	.25	.20
2.2	25	R-4300	.25	.20
4.7	25	R-4310	.25	.20
10	25	R-4315	.25	.20
22	25	R-4319	.25	.20
35	10	R-4330	.30	.25
33	35	R-4340	.30	.25
47	25	R-4350	.35	.30
100	16	R-4360	.35	.30
100	25	R-4370	.35	.30
220	16	R-4380	.45	.40
220	25	R-4390	.75	.65
330	10	R-4397	.75	.65
330	25	R-4400	.75	.65
470	10	R-4407	.75	.65
470	16	R-4410	.75	.65
470	50	R-4420	.75	.65
680	16	R-4435	.75	.65
1000	16	R-4440	.95	.75
1000	25	R-4450	\$1.05	.95
1000	50	R-4457	\$1.95	\$1.60
2200	25	R-4460	\$1.65	\$1.45
6800	10	R-4470	\$1.95	\$1.25
10000	10	R-4480	\$3.95	\$3.65
10000	40	R-4483	\$11.50	\$9.95



METAL CAN TYPE

VAL. IN uF	VOLT-AGE	CAT NO.	PRICE 1-9	PRICE 10 up
5600	40	R-4570	\$24.95	\$23.95
8000	75	R-4590	\$17.75	\$16.50
10000	40	R-4595	\$12.50	\$12.00



BI-POLAR ELECTROLYTICS

These electrolytics are specially made not to be polarised. They are designed for use where the voltage polarity across them changes — for example, in speaker cross-overs. They have a 40 volt rating.

VAL. IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
2.2	R-4600	.45	.35
3.3	R-4605	.45	.35
4.7	R-4610	.45	.35
6.8	R-4620	.45	.35
10	R-4630	.75	.60
22	R-4640	.85	.75



PREFERRED VALUES:

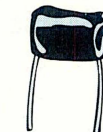
Most capacitors are supplied in 'preferred values'; however, some — particularly electrolytics — are not. (For example, 640uF where you might expect 560 or 680 uF). If you have a circuit specifying a particular value electrolytic and the one you're supplied with is not the exact value, it is normally quite safe to use it. Electrolytics usually have a very wide tolerance anyway, so if you get stuck you'll probably find a value in either direction will work just as well.

POLYESTER

Often called 'greencaps' because they're very often green in colour. Polyester capacitors are the most widely used of all types, in a huge variety of circuit applications. These polyester types are all rated at 100V or more. See data section for marking codes used.



VALUE IN uF	CAT NO.	PRICE 1-9	PRICE 10 up	VALUE IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
0.001	R-2010	.25	.20	0.039	R-2075	.25	.20
0.0012	R-2012	.25	.20	0.047	R-2080	.25	.20
0.0015	R-2015	.25	.20				
0.0018	R-2018	.25	.20	0.056	R-2085	.28	.25
0.0022	R-2020	.25	.20	0.068	R-2090	.28	.25
0.0027	R-2027	.25	.20	0.082	R-2095	.28	.25
0.0033	R-2035	.25	.20	0.1	R-2100	.35	.30
0.0039	R-2030	.25	.20	0.12	R-2102	.35	.30
				0.15	R-2105	.35	.30
0.0047	R-2035	.25	.20	0.18	R-2107	.35	.30
0.0056	R-2040	.25	.20				
0.0068	R-2045	.25	.20	0.22	R-2110	.35	.30
0.0082	R-2050	.25	.20	0.27	R-2115	.45	.40
0.01	R-2055	.25	.20	0.33	R-2120	.45	.40
0.012	R-2057	.25	.20	0.39	R-2125	.45	.40
				0.47	R-2130	.65	.56
0.015	R-2060	.25	.20				
0.018	R-2062	.25	.20	1.0	R-2135	\$1.40	\$1.20
0.023	R-2065	.25	.20	2.0	R-2140	\$1.90	\$1.70
0.027	R-2067	.25	.20	3.3	R-2145	\$2.95	\$2.70
0.033	R-2070	.25	.20				



HIGH VOLTAGE POLYESTER

Similar to above range, but offering a very high voltage rating: 630 volts! Ideal replacements for most capacitors used in valve circuits.

VALUE IN uF	CAT NO.	PRICE 1-9	PRICE 10 up	VALUE IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
0.01	R-2160	.45	.40	0.1	R-2170	\$1.15	\$1.05
0.022	R-2162	.40	.36	0.22	R-2172	\$1.35	\$1.20
0.033	R-2164	.75	.65	0.33	R-2174	\$1.65	\$1.40
0.047	R-2166	.75	.65	0.47	R-2176	\$1.75	\$1.50

POLYSTYRENE

With a low temperature coefficient and very high voltage rating, polyester capacitors are ideal for use where stability and voltage rating is important.

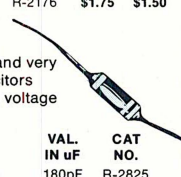
VAL. IN uF	CAT NO.	VAL. IN uF	CAT NO.	VAL. IN uF	CAT NO.
33pF	R-2807	120pF	R-2821	180pF	R-2825
39pF	R-2809	150pF	R-2823	560pF	R-2837
47pF	R-2811	220pF	R-2827	680pF	R-2839
56pF	R-2813	270pF	R-2829	820pF	R-2841
68pF	R-2815	330pF	R-2831	1000pF	R-2843
82pF	R-2817	390pF	R-2833		
100pF	R-2819	470pF	R-2835		

High Tolerance Polystyrene

0.1uF 1% 63 volt R-2780

1-9 90¢ 10 up 80¢

All polystyrene above one price: 1-9 80¢ 10 up 70¢



HIGH VOLTAGE POLYCARBONATE

Specifically intended for mains and other suppression applications, these capacitors are rated at 250 volts AC continuous.

VALUE	VOLTAGE	CAT NO.	PRICE 1-9	PRICE 10 up
0.001uF	250V AC	R-2740	\$1.15	\$1.05
0.01uF	250V AC	R-2730	\$1.15	\$1.05
0.047uF	240V AC	R-2725	\$1.30	\$1.20
0.1uF	250V AC	R-2720	\$1.75	\$1.50



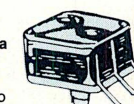
VARIABLE TUNING GANGS

60pF to 160pF miniature solid dielectric tuning capacitor suitable for replacement in many transistor radios. Ideal for new projects too.

Cat R-2970 1-9 \$1.50 ea 10 up \$1.30 ea

10 to 50pF tuning gang, air spaced, as used in ranges of "Howes" Amateur Radio Kits (Cat K-6326, 7, 8). Cat R-2980

1-9 \$6.95 10 up \$6.50 ea



TAG TANTALUMS

Resin dipped electrolytics which use a tantalum dielectric, giving a very low leakage but a high capacitance for the size of the package. See data section for marking codes.



VAL. IN uF	VOLT-AGE	CAT NO.	PRICE 1-9	PRICE 10 up	VAL. IN uF	VOLT-AGE	CAT NO.	PRICE 1-9	PRICE 10 up
0.1	35	R-4700	.70	.65	4.7	35	R-4740	.95	.85
0.22	35	R-4705	.70	.65	6.8	35	R-4745	.95	.85
0.33	35	R-4710	.70	.65	10	25	R-4750	.95	.85
0.47	35	R-4715	.70	.65	22	16	R-4760	.95	.85
1	35	R-4720	.70	.65	33	10	R-4765	.95	.85
2.2	35	R-4730	.70	.65	47	6.3	R-4770	.95	.85
3.3	35	R-4735	.70	.65	100	3	R-4775	1.25	1.15



CERAMICS

Use ceramics when low inductance is important; for example, in many RF circuits. They offer a huge range of values and are all rated at 50 volts or higher.

VAL. IN uF	CAT NO.	VAL. IN uF	CAT NO.	VAL. IN uF	CAT NO.
1pF	R-2215	27pF	R-2245	470pF	R-2299
1.5pF	R-2217	33pF	R-2247	560pF	R-2301
2.2pF	R-2219	39pF	R-2249	680pF	R-2303
2.7pF	R-2221	47pF	R-2251	820pF	R-2305
3.3pF	R-2223	56pF	R-2253	0.001uF	R-2307
3.9pF	R-2225	68pF	R-2257	0.0022uF	R-2309
4.7pF	R-2227	82pF	R-2259	0.0033uF	R-2311
5.6pF	R-2229	100pF	R-2265	0.0047uF	R-2313
6.8pF	R-2231	120pF	R-2267	0.0056uF	R-2315
8.2pF	R-2233	150pF	R-2269	0.0068uF	R-2317
10pF	R-2235	180pF	R-2291	0.0082uF	R-2319
12pF	R-2237	220pF	R-2293	0.01uF	R-2321
15pF	R-2239	270pF	R-2295	0.022uF	R-2323
18pF	R-2241	330pF	R-2296	0.033uF	R-2325
22pF	R-2243	390pF	R-2297	0.047uF	R-2327

All one price
1-9 15¢ ea. 10 up 13¢ ea.

SPECIAL CERAMICS 60V rating

Special large capacitance ceramics for special applications.

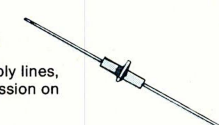
VAL. IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
0.1uF	R-2360	.30	.25
0.22uF	R-2370	.45	.40

High voltage ceramic (rated at 3kV) for mains suppression, etc.

VAL. IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
0.01uF	R-2400	1.75	1.50

CERAMIC FEEDTHROUGHS

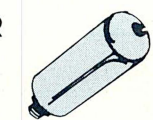
Ideal for bypassing DC supply lines, RF amplifiers, noise suppression on motors, etc.



VAL. IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
0.001uF	50V R-2851	1-9 .65	10 up .55

HIGH DISCHARGE (STROBE) CAPACITOR

Used in circuits such as photographic strobes or flashes where heavy discharge currents occur. Rated at 250 volts AC with discharge resistor built in.



VAL. IN uF	CAT NO.	PRICE 1-9	PRICE 10 up
R-2855	6.5uF	250V AC	5.25 each 4.95

TRIMMER CAPACITORS

RANGE	CAT NO.	PRICE EACH	10 up
9.8-60pF	R-2930	1.65	1.50
4.2-20pF	R-2935	1.40	1.25

Automotive Suppressors

Capacitive and Resistive ignition noise suppressors for motor vehicles.

0.5uF Bypass Capacitor

Standard "cure-all" for noisy coils, pumps, switches, etc. Cat A-7902



Spark Plug Resistor

RESISTORS

Using your 'easy find' resistor table...

Simply follow the 'value' column down on either side until you find the particular value you require, and then run across the column headed by the type of resistor (e.g. metal film, 1W carbon film, etc.). That's the catalogue number of your resistor!

VALUE IN OHMS	1/4W Metal Film 7¢ each 100 or more 5¢ each	1/4W Carbon Film 5¢ each 100 or more 3¢ each	1/2W Carbon Film 6¢ each 100 or more 4¢ each	1W Carbon Film 14¢ each 100 or more 12¢ each	5W Wire Wound 60¢ each 10 or more 50¢ each	VALUE IN OHMS
0.1					R-1600	0.1
0.47					R-1601	0.47
1.0		R-1002	R-1202	R-1402	R-1602	1.0
1.2		R-1004	R-1204	R-1404	R-1604	1.2
1.5		R-1006	R-1206	R-1406	R-1606	1.5
1.8		R-1008	R-1208	R-1408		1.8
2.2		R-1010	R-1210	R-1410	R-1610	2.2
2.7		R-1012	R-1212	R-1412		2.7
3.3		R-1014	R-1214	R-1414	R-1614	3.3
3.9		R-1016	R-1216	R-1416		3.9
4.7		R-1018	R-1218	R-1418	R-1618	4.7
5.6		R-1020	R-1220	R-1420	R-1620	5.6
6.8		R-1022	R-1222	R-1422	R-1622	6.8
8.2		R-1024	R-1224	R-1424	R-1624	8.2
10	R-0526	R-1026	R-1226	R-1426	R-1626	10
12	R-0528	R-1028	R-1228	R-1428	R-1628	12
15	R-0530	R-1030	R-1230	R-1430	R-1630	15
18	R-0532	R-1032	R-1232	R-1432	R-1632	18
22	R-0534	R-1034	R-1234	R-1434	R-1634	22
27	R-0536	R-1036	R-1236	R-1436	R-1636	27
33	R-0538	R-1038	R-1238	R-1438	R-1638	33
39	R-0540	R-1040	R-1240	R-1440	R-1640	39
47	R-0542	R-1042	R-1242	R-1442	R-1642	47
56	R-0544	R-1044	R-1244	R-1444	R-1644	56
68	R-0546	R-1046	R-1246	R-1446	R-1646	68
82	R-0548	R-1048	R-1248	R-1448	R-1648	82
100	R-0550	R-1050	R-1250	R-1450	R-1650	100
120	R-0552	R-1052	R-1252	R-1452	R-1652	120
150	R-0554	R-1054	R-1254	R-1454	R-1654	150
180	R-0556	R-1056	R-1256	R-1456	R-1656	180
220	R-0558	R-1058	R-1258	R-1458	R-1658	220
270	R-0560	R-1060	R-1260	R-1460	R-1660	270
330	R-0562	R-1062	R-1262	R-1462	R-1662	330
390	R-0564	R-1064	R-1264	R-1464	R-1664	390
470	R-0566	R-1066	R-1266	R-1466	R-1666	470
560	R-0568	R-1068	R-1268	R-1468	R-1668	560
680	R-0570	R-1070	R-1270	R-1470	R-1670	680
820	R-0572	R-1072	R-1272	R-1472	R-1672	820
1k	R-0574	R-1074	R-1274	R-1474	R-1674	1k
1.2k	R-0576	R-1076	R-1276	R-1476	R-1676	1.2k
1.5k	R-0578	R-1078	R-1278	R-1478	R-1678	1.5k
1.8k	R-0580	R-1080	R-1280	R-1480	R-1680	1.8k
2.2k	R-0582	R-1082	R-1282	R-1482	R-1682	2.2k
2.7k	R-0584	R-1084	R-1284	R-1484	R-1684	2.7k
3.3k	R-0586	R-1086	R-1286	R-1486	R-1686	3.3k
3.9k	R-0588	R-1088	R-1288	R-1488	R-1688	3.9k
4.7k	R-0590	R-1090	R-1290	R-1490	R-1689	4.7k
5.6k	R-0592	R-1092	R-1292	R-1492		5.6k
6.8k	R-0594	R-1094	R-1294	R-1494		6.8k
8.2k	R-0596	R-1096	R-1296	R-1496	R-1708	8.2k
10k	R-0598	R-1098	R-1298	R-1498		10k
12k	R-0600	R-1100	R-1300	R-1500		12k
15k	R-0602	R-1102	R-1302	R-1502		15k
18k	R-0604	R-1104	R-1304	R-1504		18k
22k	R-0606	R-1106	R-1306	R-1506		22k
27k	R-0608	R-1108	R-1308	R-1508		27k
33k	R-0612	R-1112	R-1312	R-1512		33k
39k	R-0614	R-1114	R-1314	R-1514		39k
47k	R-0616	R-1116	R-1316	R-1516		47k
56k	R-0618	R-1118	R-1318	R-1518		56k
68k	R-0620	R-1120	R-1320	R-1520		68k
82k	R-0622	R-1122	R-1322	R-1522		82k
100k	R-0624	R-1124	R-1324	R-1524		100k
120k	R-0626	R-1126	R-1326	R-1526		120k
150k	R-0628	R-1128	R-1328	R-1528		150k
180k	R-0630	R-1130	R-1330	R-1530		180k
220k	R-0632	R-1132	R-1332	R-1532		220k
270k	R-0634	R-1134	R-1334	R-1534		270k
330k	R-0636	R-1136	R-1336	R-1536		330k
390k	R-0638	R-1138	R-1338	R-1538		390k
470k	R-0640	R-1140	R-1340	R-1540		470k
560k	R-0642	R-1142	R-1342	R-1542		560k
680k	R-0644	R-1144	R-1344	R-1544		680k
820k	R-0646	R-1146	R-1346	R-1546		820k
1M	R-0648	R-1148	R-1348	R-1548		1M
1.2M		R-1150	R-1350	R-1550		1.2M
1.5M		R-1152	R-1352	R-1552		1.5M
1.8M		R-1154	R-1354	R-1554		1.8M
2.2M		R-1156	R-1356	R-1556		2.2M
2.7M		R-1158	R-1358	R-1558		2.7M
3.3M		R-1160	R-1360	R-1560		3.3M
3.9M		R-1162	R-1362	R-1562		3.9M
4.7M		R-1164	R-1364	R-1564		4.7M
5.6M		R-1166	R-1366	R-1566		5.6M
6.8M		R-1168	R-1368	R-1568		6.8M
8.2M		R-1170	R-1370	R-1570		8.2M
10M		R-1172	R-1372	R-1572		10M

PLEASE NOTE: The 100 up price shown for all the resistors is for 100 of the same type and value. Resistors can NOT be mixed to obtain a 100-up price. Refer to our bulk packs for mixed value resistors at huge savings!

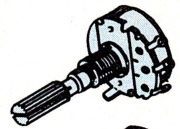
Single Rotary Pots \$1.50 ea (10 up \$1.40 ea)

METRIC LINEAR

500	R-6802	50k	R-6809
1k	R-6803	100k	R-6810
5k	R-6805	500k	R-6812
10k	R-6806	1M	R-6813
20k	R-6807	2M	R-6814

METRIC LOG

10k	R-682G
50k	R-6823
100k	R-6824

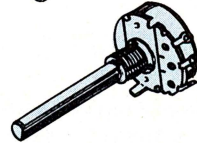


IMPERIAL LINEAR

500	R-1801	50k	R-1809
1k	R-1803	100k	R-1810
5k	R-1805	500k	R-1812
10k	R-1806	1M	R-1813
20k	R-1807	2M	R-1814

IMPERIAL LOG

10k	R-1820
50k	R-1823
100k	R-1824



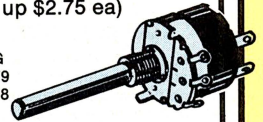
Single Rotary Log Switch Pots \$2.95 ea (10 up \$2.75 ea)

METRIC LOG

10k	R-6879
1M	R-6888

IMPERIAL LOG

10k	R-1879
1M	R-1888



Dual Rotary Pots \$2.95 ea (10 up \$2.75 ea)

METRIC LINEAR

10k	R-6834
20k	R-6836
100k	R-6840

METRIC LOG

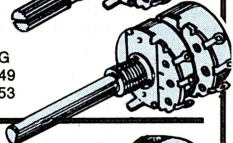
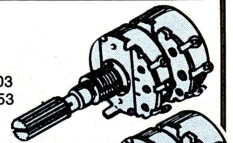
10k	R-1803
50k	R-6853

IMPERIAL LINEAR

10k	R-1834	100k	R-1840
20k	R-1836		

IMPERIAL LOG

10k	R-1849
50k	R-1853



Wire Wound Pots

(Rated at 3 watts)

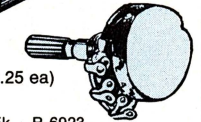
\$4.95 ea (10 up \$4.50 ea)

5	R-6901	100	R-6909
10	R-6903	200	R-6911
25	R-6905	500	R-6913
50	R-6907		

Rated at 5 watts

\$6.95 ea (10 up \$6.25 ea)

1k	R-6915	7.5k	R-6923
2k	R-6917	10k	R-6925
5k	R-6921		



Mini Vertical Trimpots 50¢ ea (10 up 45¢ ea)

100	R-1929	2k	R-1937	50k	R-1945	1M	R-1953
200	R-1931	5k	R-1939	100k	R-1947	2M2	R-1954
500	R-1933	10k	R-1941	200k	R-1949		
1k	R-1935	20k	R-1943	500k	R-1951		



Lge Vertical Trimpots 50¢ ea (10 up 45¢ ea)

100	R-1956	2k	R-1960	50k	R-1964	1M	R-1968
200	R-1957	5k	R-1961	100k	R-1965	2M2	R-1969
500	R-1958	10k	R-1962	200k	R-1966		
1k	R-1959	20k	R-1963	500k	R-1967		



Horizontal Trimpots 50¢ ea (10 up 45¢ ea)

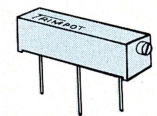
100	R-1760	2K	R-1767	50k	R-1775	1M	R-1783
200	R-1761	5k	R-1769	100k	R-1777	2M2	R-1784
500	R-1763	10k	R-1771	200k	R-1779		
1k	R-1765	20k	R-1773	270k	R-1781		



10 Turn Trimpots \$2.60 ea (10 up \$2.40 ea)

A multi-turn pot as used in a huge variety of test gear, precision equipment, etc. Very well made. 10 turns from end to end.

1k	R-1900
10k	R-1901
20k	R-1902
50k	R-1903
100k	R-1910

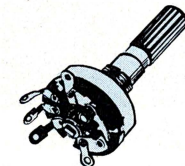


Replacement pots for transistor radios, etc

Miniature Rotary

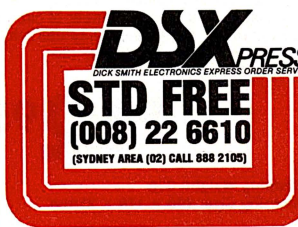
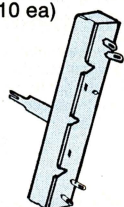
\$1.20 ea (10 up \$1.10 ea)

As used in larger radios, cassettes, etc. With 25mm long fluted shaft and on/off switch. Grab some for the junk box! Also ideal for general use, res. 5K. Cat R-1974

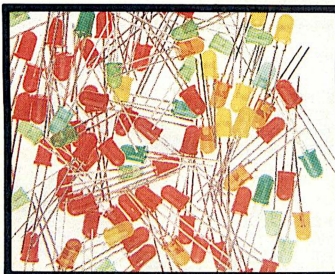


50k Slider Pot \$1.25 ea (10 up \$1.10 ea)

As used in Playmaster Graphic Equaliser. Quality 50k linear pot, 73mm length, 45m overall travel. Special knobs are available to suit (see knobs page). Cat R-1980



COMPONENT PACKS

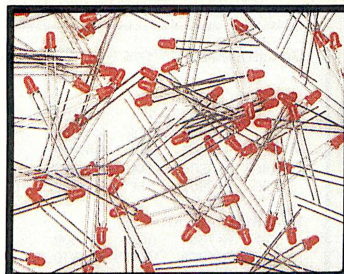


Premium LED Pack 100 premium LEDs

Not the usual mix, these: they're top quality — matched for brightness & colour. Standard 5mm size: at this price you can afford to use premium LEDs on all your projects! You get: sixty red, twenty green, ten yellow and ten orange. That's a hundred premium LEDs for a song! Cat Z-3015

\$26⁹⁵

Shipping Weight: 41g
Shipping Size: 190 × 100 × 10mm

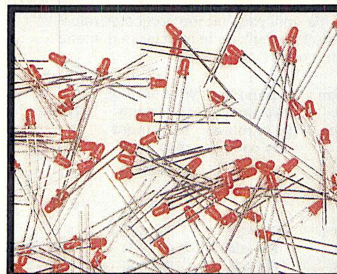


Premium 3mm red LED pack 100 pieces

Highly suited for labs, manufacturers, etc and even hobbyists building lotsa-leds projects! Premium quality (matched brightness) 3mm size LEDs, 100 in pack. Cat Z-4076

\$19⁹⁵

Shipping Weight: 26g
Shipping Size: 210 × 100 × 10mm

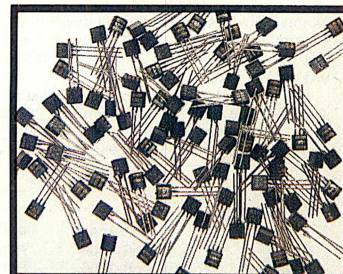


Premium 5mm red LED pack 100 pieces

Similar to pack at left, again a highly useful pack for anyone using LEDs in volume. Savings are over 40% on single LED prices (so if you need anything over 60 LEDs, the rest are effectively FREE when you buy this pack! 100 5mm premium quality red LEDs. Cat Z-4084

\$19⁹⁵

Shipping Weight: 42g
Shipping Size: 210 × 100 × 10mm

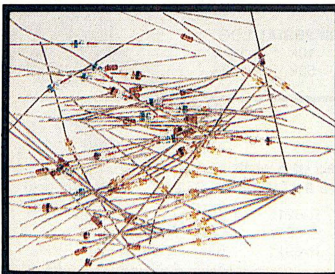


Signal Transistor Pack 100 pieces

A pack of the most-used transistors the hobbyist, technician or design lab can have. Comprises twenty each of DS547, DS548, DS549 NPN types (equiv. BC107, 8 & 9), fifteen DS557 & DS558 (equiv. BC557, 8) and ten BC159 PNP types. Incredibly handy to have around: just in case! And look at the saving ... Cat Z-3000

\$13⁹⁵

Shipping Weight: 30g
Shipping Size: 160 × 100 × 30mm

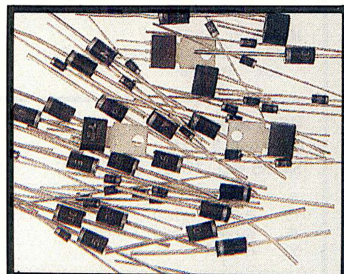


Signal Diode Pack 100 pieces

Another beauty! A selection of the types of diodes we all use for projects — from crystal sets to computers! Contains five OA90, fifteen OA91/DSOA91, five OA95, five OA47 germanium diodes, and a huge seventy (yes, seventy!) 1N914 silicon diodes. Keep a pack in the junk box! Cat Z-3005

\$13⁹⁵

Shipping Weight: 40g
Shipping Size: 130 × 100 × 30mm

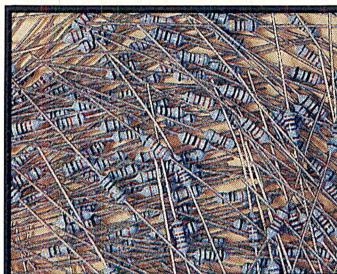


Power Diode Pack 57 diodes & SCR's

Just the type of pack you've been waiting for: over fifty of the most used power diodes and SCR's (not useless, rubbish types!). You get: 10 each 1N4002, 1N4004, 1N4007 1A diodes, 10 each 1N5404 & 1N5408 3A diodes, two W04 1.5A 400V bridges, three C106Y1 and two C122E general purpose SCR's. Cat Z-3010.

\$13⁹⁵

Shipping Weight: 54g
Shipping Size: 210 × 100 × 20mm

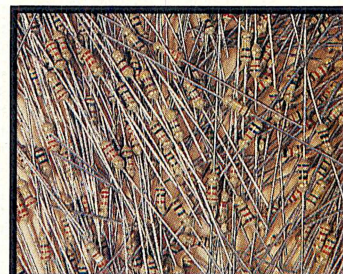


E-24 Metal Film 1% Resistor Pack 300 pieces

Now for those who need really precision resistors, we've added this superb pack of low noise 1% metal films to our range: in the full E-24 series. Consists of 300 pieces covering 60 values between 11 ohms and 910 kohms; computer chosen for maximum usefulness. Cat R-7020

\$18⁷⁵

Shipping Weight: 64g
Shipping Size: 130 × 100 × 30mm

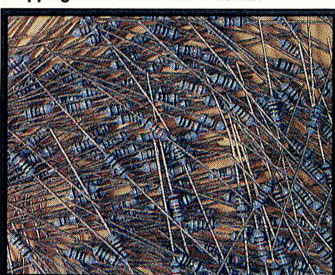


Resistor Pack 300 computer selected 1/4W types

Ideal for the professional and the hobbyist, 60 values specially chosen by the computer. Quality 5% types — huge savings on normal prices: less than 3¢ each! Cat R-7010

\$8⁷⁵

Shipping Weight: 70g
Shipping Size: 130 × 100 × 30mm

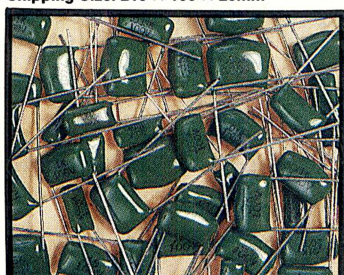


Metal Film Resistor Pack 300 precision 1% 1/4W E-12 metal film resistors

Our 1% metal film resistors are even better value when bought by the pack! Now there's no excuse not to use metal films in all your projects — especially at this price! Cat R-7015

\$14⁹⁵

Shipping Weight: 66g
Shipping Size: 135 × 100 × 20mm



Greencap Pack 60 Greencaps

No weird, rubbish values in this pack. Every greencap is as used in a number of circuits. 100 volt rating, too — and the values are selected from .001uF to 0.22uF (60 capacitors in all). Cat R-7040

\$12⁹⁵

Shipping Weight: 35g
Shipping Size: 100 × 170 × 25mm

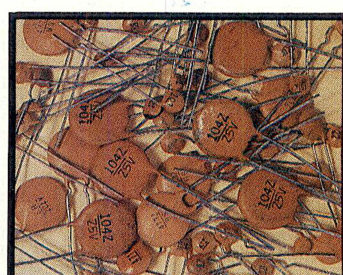


Electrolytic Pack 55 Electrolytics

55 top quality single ended (pcb mounting) electrolytics. You're sure to find one here you need. Range from 2.2uF to 470uF, voltages from 10 to 25. Cat R-7030

\$9⁹⁵

Shipping Weight: 54g
Shipping Size: 130 × 100 × 30mm



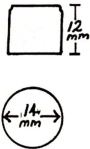
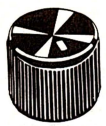
Ceramic Pack Over 60 Ceramics

Quality ceramic capacitors in a specially selected pack. Voltages from 50V — some as high as 630VW. Save a fortune over one-off prices. Cat R-7050

\$6⁹⁵

Shipping Weight: 24g
Shipping Size: 170 × 100 × 15mm

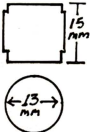
Metric Range



Tiny elegant knob, finished in black with silver shoulder and pointer, 14mm diam, 12mm deep. Cat H-3820

\$1 25

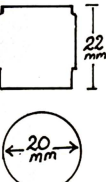
10 or more \$1.20



Black body with deep flutes down side for positive grip. White radius pointer. Size 13mm diam, 15mm deep. Cat H-3826

\$1 25

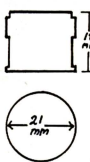
10 or more \$1.20



Black finished knob with silver shoulder and white marker, 20mm diam, 22mm deep. Cat H-3830

\$1 75

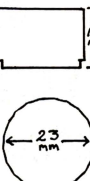
10 or more \$1.60



Aluminium knob with fine serrations down top third of body. With pointer, size 21mm diam, 18mm deep. Cat H-3834

\$1 75

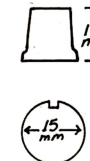
10 or more \$1.60



Incredibly popular knob for quality project use. Satin finish aluminium with knurled body, 23mm diam, 17mm deep. Cat H-3843

\$1 75

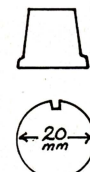
10 or more \$1.60



The smallest of four matching project knobs. Integral pointer across top, size just 11mm body, 15mm skirt and 15mm overall. Cat H-3850

95¢

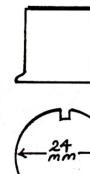
10 or more 85¢



Larger again: great as a tone control or switch knob on amplifiers, etc. 20mm wide with 24mm skirt, 20mm deep. Cat H-3855

95¢

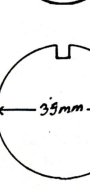
10 or more 90¢



Larger again: great as a tone control or switch knob on amplifiers, etc. 20mm wide with 25mm skirt, 16mm deep. Cat H-3860

\$1 45

10 or more \$1.35



The largest of the series: ideal volume or other main control used in conjunction with above knobs. 35mm wide skirt, 28mm wide body and 18mm height. Cat H-3865

\$1 75

10 or more \$1.60

Imperial Range

These are mainly intended to be used as replacements on existing equipment. They fit standard 1/4" shafts, and are tightened by a grub screw

A superb instrument knob with wide skirt, calibrated 1-10 in black on silver. Size 37mm diam, 15mm deep. Cat H-3770

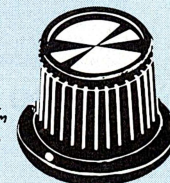
\$1 95

10 or more \$1.85

Small knob with fluted sides, small skirt with dot pointer. Size 19mm diam, 14mm deep. Cat H-3762

\$1 45

10 or more \$1.25



Another very popular knob. The pointer runs right through from the top to the edge of the skirt. Silver insert. Size 26mm diam, 15mm deep. Cat H-3772

\$1 25

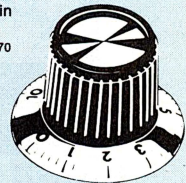
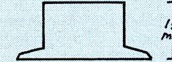
10 or more \$1.15



A very popular knob for all instruments, etc. Very positive grip and wide skirt with white pointer engraved on top. Size 31mm diam, 15mm deep. Cat H-3768

\$1 25

10 or more \$1.15

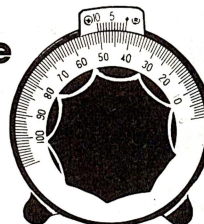


Vernier Drive

Precision vernier drive designed for front panel mounting. 50mm diam. Cat H-3900

\$1 95

10 or more \$11.35

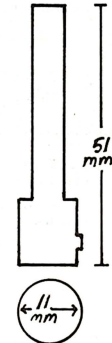
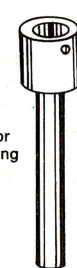


Imperial Extension Shaft

Machined brass shaft for imperial pot shafts, tuning gangs, etc. Cat H-3950

\$3 95

10 or more \$3.75

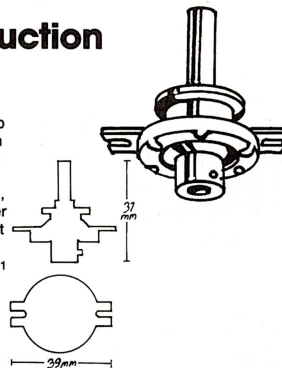


Quality Reduction Drives

For new projects or as a replacement this is a superb precision vernier drive. With smooth, positive movement for the finest control. Suitable for panel mounting, the compact 27mm diameter makes it ideal for those tight spots. Inbuilt lugs make mounting a breeze. Cat H-3901

\$9 95

10 or more \$8.95

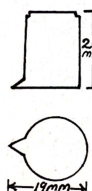


Coloured Plastic Knobs

What a colourful idea! Now your projects can really look the part with these snazzy coloured knobs. Use them to colour code sections (great on multi-channel mixers, lighting consoles, etc). 16mm diam, standard metric (fluted shaft) fitting. Inserts can be changed to suit the occasion! Choice of four with-it colours: **Red** Cat H-3800, **Orange** Cat H-3802, **Blue** Cat H-3804 and **Green** Cat H-3806

\$1 95

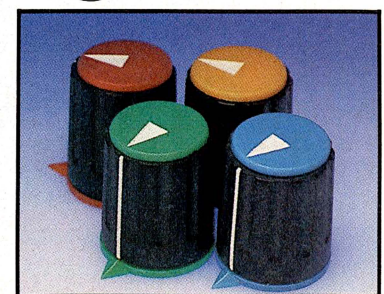
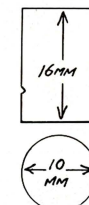
10 or more \$1.85



Slider Knob

Nicely finished in black aluminium and designed for an equalizer slider pot. Overall 16mm long and 10mm in diameter. Suitable for a large range of projects or as a replacement. Cat H-3782

95¢

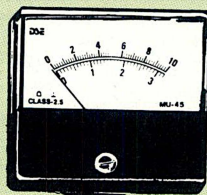


Universal Panel Meters

Universal 100uA panel meters that can be easily adapted for just about any situation — Volts, Amps, mA... anything! There's two sizes to choose from so you can match all your equipment.

Combined with our 'Shunt Pack' (Q-2046) and Meter Instrument Labels (N-5751) the meters will operate over the range 100uA to 316mA and 1V to 100V. Higher currents can easily be satisfied by providing an appropriate resistance. Scale is to the I.E.C. standard.

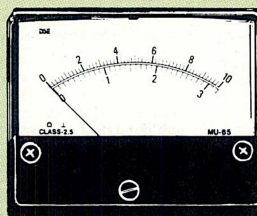
Superb styling and rugged construction make these the ideal meter to finish your projects. Come with comprehensive instructions!



Small

Dimensions: Scale Area — 55 x 30mm
Overall — 55 x 52mm
Mounting:
Hole Required — 45mm
Bolt Holes — 38mm square
Cat Q-2045

\$15⁹⁵



Large

Dimensions:
Scale Area — 96 x 49mm
Overall — 96 x 82mm
Mounting:
Hole Required — 65mm
Bolt Holes — 64mm x 80mm centres
Cat Q-2065

\$21⁵⁰

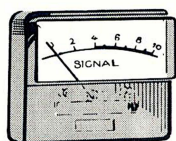
Shunt Pack

Designed to suit the above panel meters but they're handy for most meter conversion. Comes with shunt resistors from 1.1 to 1,000,000 ohms, resistance wire and instructions. Cat Q-2046

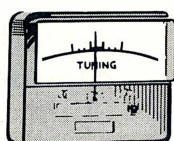
\$4⁵⁰

Level Meters

Particularly suitable for AM/FM tuner and receiver projects, but also ideal for a huge range of other projects. Meter scale size 35 x 15mm (same size as cut-out required); impedance 1k. Straw coloured meter face, looks really great back-lit.



\$6⁹⁵
each



Signal Strength Tuning Centre Zero

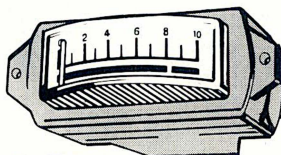
250uA FSD
scale labelled 1-10
Cat Q-2100

Sensitivity is 250uA half FSD
(in either direction) Cat Q-2095

Edge Level Meter

As used in many imported cassettes, amplifiers, etc. Graduated 1 to 10 with 'battery check' stripe under the main scale. Scale size 32 x 10mm, it is ideal for a fine level adjustment meter, audio or battery level, etc. Mounts with screws, hole centres 49mm.

500uA FSD
500 ohms
Cat Q-2110



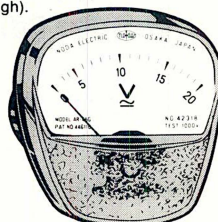
\$6⁹⁵
each

Moving Iron Range

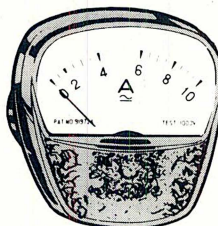
The two most popular ranges for the hobbyist, etc. AC/DC moving iron metres in two scales. Note: moving iron meters are not highly accurate, but give good relative indication. Oval style meter measuring approx. 55mm (wide) x 58mm (high).

0-20V (AC & DC)
Cat Q-2080

\$19⁹⁵
each



0-10A (AC & DC)
Cat Q-2090



Standard Range Panel Meters

A high quality range of moving coil meters, with full scale accuracy better than 2%. Easily adapted to suit virtually any requirement. All the meters have a fine needle for optimum accuracy in reading, and all have mechanical zero adjustment. Mounting is by four bolts with nuts and washers supplied.

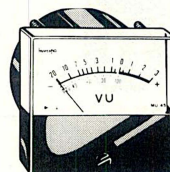
Dimensions:
Scale area — 58 x 31mm
Overall — 58 x 52mm

Mounting:
Hole required — 44mm
Bolt holes: 38mm square

VU Meter

-20 ±3VU
(1.228V/0dB)
Cat Q-2050

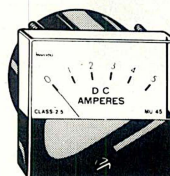
\$15⁹⁵



0-5A DC

0-5A
(0.03 ohms shunt)
Cat Q-2030

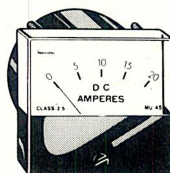
\$15⁹⁵



0-20A DC

(0.007 ohms shunt)
Cat Q-2035

\$15⁹⁵

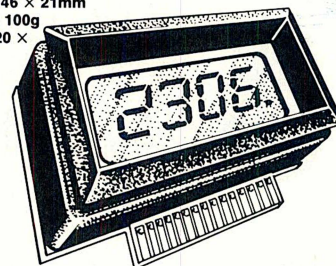


3.5 Digit LCD Panel Meter

Replace d'Arsonval meters with LCD digital: this 3½ digit module makes it easy. "Full Scale" of 200mV or 2V (user selectable) and a super high input impedance (>100 megohms) makes adaption to a range of applications very simple. The meter can be self mounted — includes a mounting bezel to make your project look really professional. Comprehensive data sheet included, showing several circuit variations. Cat Q-2200

Features:
Single supply rail (9V)
Low supply current (2mA max)
High accuracy (.01% ±2 digits)
Auto zeroing and overrange inbuilt
Meter size: 71 x 46 x 21mm
Shipping weight: 100g
Shipping size: 120 x 80 x 40mm

\$54⁹⁵



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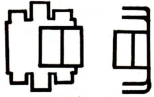
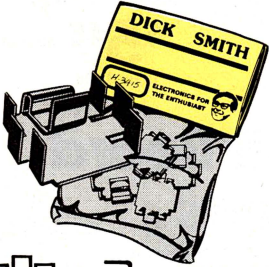
OR By Mail:

DSXpress
P.O. Box 321, North Ryde
NSW 2113

TO-220 Heatsink Packs

Pack of five clip-on heatsinks for TO-220 type semis (also adaptable to other types). Size 25 x 20mm, spring-type connection ensures good metal contact for efficient heat transfer. Cat H-3415

Shipping weight: 9g
Shipping size: 120 x 80 x 30mm



\$4.40

Versatile Power Heatsink

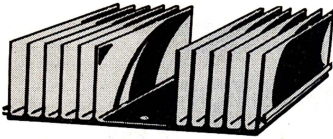
The ingenious design of this heatsink makes it possible to mount it either flat on a panel, or at right angles to it (eg inside a case). The side fins also have tongue and groove so they may be joined sideways. Drilled version takes 2x TO-3's. Size is 78 x 110 x 33mm.

Undrilled Cat H-3460

\$5.50

Pre-drilled Cat H-3461

\$5.95



Economy Power Heatsink

Flag mounting with fins both top and bottom. Available in either drilled or undrilled versions, drilled accepts two power transistors of most types. TO-3, TO-126, TO-220, etc. Size 74 x 102 x 25mm. Thermal resistance mounting surface to ambient -1°C/watt (at 2ft/sec forced air flow). Mounting surface temperature rise above ambient with no forced air flow 60°C @ 30W heat dissipation level.

Undrilled Cat H-3470

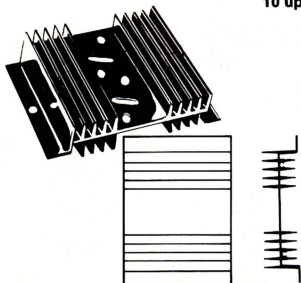
Shipping weight: 128g
Shipping size: 160 x 110 x 30mm

Cat H-3470.....\$4.50
10 up \$4.05

Pre-drilled Cat H-3471

Shipping weight: 105g
Shipping size: 200 x 110 x 35mm

Cat H-3471.....\$4.95
10 up \$4.25



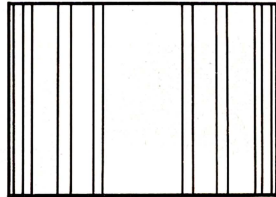
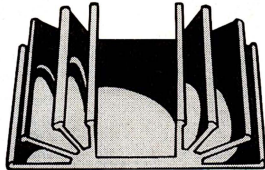
High Efficiency Power Heatsink

With its thick base and radial fin design this heatsink is able to dissipate huge amounts of heat. It is black anodised for even greater efficiency. Thermal resistance mounting surface to ambient -1°C/watt (at 2ft/sec forced air flow). Mounting surface temperature rise above ambient with no forced air flow 60°C @ 30W heat dissipation level. Cat H-3422

Shipping weight: 132g
Shipping size: 101 x 80 x 30mm

Cat H-3422.....\$5.75

10 up \$5.45



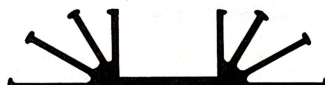
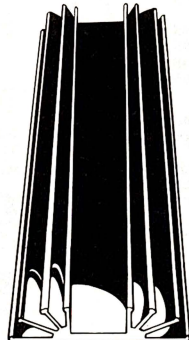
Extra Heavy Duty Powerfin Heatsink

Similar to above heatsink in cross section, but three times the length. For those big projects where a lot of heat has to be removed. Cat H-3426

Shipping weight: 405g
Shipping size: 102 x 303 x 30mm

Cat H-3426.....\$13.95

10 up \$12.95

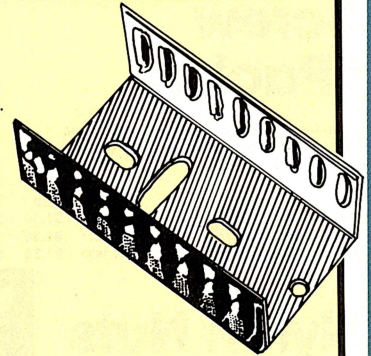


Aluminium Heatsinks

Universal

Universal hole pattern allows the mounting of virtually all 'power' type semiconductors. Ribbed walls and black anodised finish for maximum efficiency. Cat H-3401

\$1.40



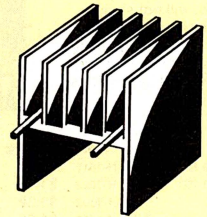
PCB Mounting

Just right for today's projects with everything mounted on the pcb: two heatsinks that also mount on the pcb. Designed to be soldered direct to the tracks, with their fins mounted vertically for even more heat loss. Two handy types to choose from:

Large:

H pattern, 30 x 30 x 30mm, drilled to take a single flat-pack semiconductor (can be re-drilled for other types). Cat H-3495

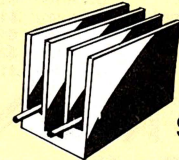
\$2.95



Small:

U pattern, 17 x 15 x 30mm high. Again, drilled for a single flat-pack, with tapped 4BA hole. Cat H-3490

\$2.50



Round TO-5

Manufactured to exacting tolerances to ensure a snug fit and best possible heat transfer on TO-5 cases. Massive body allows rapid heat dissipation. Cat H-3412

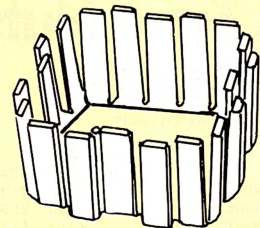
80¢



Powerfin for TO-3

This heatsink gives the greatest possible heat dissipation in the smallest possible space. It is a unique fin design that gives a very high air to metal ratio (thermal rating approximately 5°C/watt). Measures only 50mm square x 26mm high, pre-punched to suit TO-3 case. Black anodised finish. Cat H-3400

\$2.25



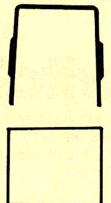
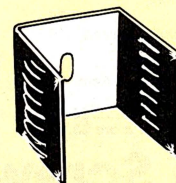
Mini

Because it suits virtually all flat (plastic type) semiconductors, this heatsink is used extensively on PCB, etc. Has vertical flutes for maximum thermal efficiency. Cat H-3402

Shipping weight: 10g
Shipping size: 100 x 90 x 30mm

Cat H-3402.....\$1.50

10 up \$1.25



Self-Tapping Screw (Packs)

Ideal for projects or as replacements for lost screws. These units are Cadmium plated steel.

	Ea	10 up	Wt.
No. 4 x 12mm: Size 40	25 H-1612 \$1.30	\$1.20	16g
No. 4 x 6mm: Size 40	25 H-1611 \$1.30	\$1.20	12g
No. 8 x 12mm: Size 30	25 H-1632 \$1.30	\$1.20	37g



Nylon Nuts and Bolts

Precision moulded from '66' white nylon. Fully insulated, will not shake loose, can resist high temperatures and they are corrosion free. These items are hard to get but we have them and they are ideal for transistor and heatsink use. Tough but light.



Description	Pack Qty	Cat No.	Price per pack	10 up	Wt.
12mm x 4BA cheese hd	10	H-1012	\$1.15	\$1.05	3g
25mm x 4BA cheese hd	10	H-1022	\$1.15	\$1.05	5g
4BA hex nut	12	H-1302	\$2.30	\$2.10	2g
4BA nylon washer	12	H-1452	\$1.15	\$1.05	2g
12mm x 6BA cheese hd	10	H-1032	\$1.15	\$1.05	1g
25mm x 6BA cheese hd	10	H-1042	\$1.15	\$1.05	4g
6BA hex nut	12	H-1312	\$2.30	\$2.10	2g
6BA washer	12	H-1462	\$1.15	\$1.05	1g

Steel Nuts and Bolts

1/8" Whitworth round head zinc plated — just the kind of item that should be in your 'ready' box for future projects.



Description	Pack Qty	Cat No.	Ea	10 up	Wt.
9mm long	25	H-1052	\$1.15	\$1.05	18g
2mm long	25	H-1062	\$1.15	\$1.05	23g
5mm long	25	H-1072	\$1.15	\$1.05	29g
3mm hex nut	30	H-1322	\$1.15	\$1.05	15g
3mm s-proof washer	50	H-1472	\$1.15	\$1.05	6g
3mm metal washer	50	H-1482	\$1.15	\$1.05	14g

BA Type Nuts and Bolts

Both brass and steel types in cheesehead.

Description	Pack Qty	Cat No.	Ea	10 up	Wt.
12mm x 4BA bolt	25	H-1082	\$1.15	\$1.05	31g
4BA hex nuts (brass)	20	H-1332	\$1.30	\$1.20	15g
4BA flat washer (steel)	50	H-1488	\$1.15	\$1.05	12g
4BA s-proof washer	50	H-1486	\$1.15	\$1.05	7g
2mm x 6BA bolts	25	H-1092	\$1.30	\$1.20	22g
6BA hex nuts (brass)	25	H-1342	\$1.30	\$1.20	9g

6BA pack containing 12 of each — 12mm bolts, brass nuts and shakeproof washers. A total of 36 units.

Cat H-1684.....\$1.75
10 packs or more \$1.60

8BA pack containing 12 of each — 12mm brass bolts, nuts and washers. A total of 36 units.

Cat H-1682.....\$3.45
10 packs or more \$3.10

Switch Screws

Cross pan-head screws to suit most switches with threaded mounting holes. Two sizes to choose from, each pack has 10 pieces:



	Ea	10 up	Wt.
3 x 10mm	H-1672 \$1.50	\$1.35	10g
2 x 5mm	H-1674 \$1.15	\$1.05	5g

High Tensile Hex Head

When strength is important, here's the answer: high tensile steel bolts, complete with washers and nuts, with hex head (allen key adjustment) for security. Two sizes to choose from:

Pack 1: 6BA size x 20mm

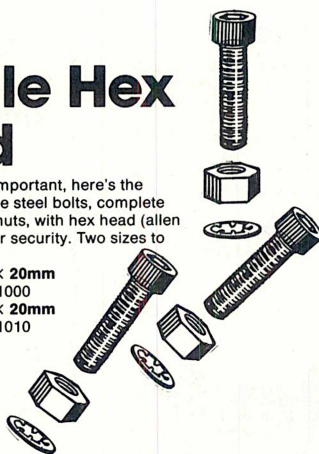
(pack of 4) Cat H-1000

Pack 2: 4BA size x 20mm

(pack of 4) Cat H-1010

\$2.95 pack

10 up \$2.75



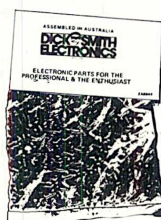
Big Pack of Screws!

You know the type: the one's you're always missing! 1/4" pk screws (self tappers to the uninitiated) — a pack of around 500. Cat H-1625

Weight: 210g

\$7.95

10 up \$7.20



Metric Screw Packs

Description	Quantity	Cat No.	Price	10 up	Wt.
Asst P/H S/Tap Screws	160pc	H-1500	\$3.25	\$2.05	55g
Asst C/S S/Tap Screws	150pc	H-1505	\$2.25	\$2.05	42g
Asst P/H Machine Screws	320pc	H-1510	\$5.95	\$5.45	
Asst C/S Machine Screws	270pc	H-1515	\$2.95	\$2.75	113g
Assorted Nuts	340pc	H-1520	\$4.25	\$3.95	
Asst Washers	680pc	H-1525	\$4.25	\$3.95	102g



Insulated Spacers

The ideal spacer for insulating the chassis from your PC board. They come complete with screws.

Description	Pack Qty	Cat No.	Price per pack	10 up
10mm	5	H-1861	\$3.25	\$2.95
15mm	5	H-1862	\$3.45	\$3.25
20mm	5	H-1871	\$3.75	\$3.45
25mm	5	H-1872	\$3.95	\$3.65



Plated Brass Spacers

High quality nickel plated brass spacers. May be stacked for extra length if required.

4BA (1/8") clearance hole 6mm OD

Description	Pack Qty	Cat No.	Price per pack	10 up	Wt.
6mm	12	H-1831	\$4.95	\$4.45	16g
9mm	10	H-1832	\$3.45	\$3.25	9g
12mm	8	H-1833	\$3.45	\$3.25	9g
25mm	6	H-1834	\$3.45	\$3.25	11g

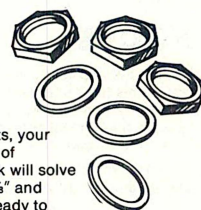
Hexagonal 4BA tapped 6mm OD



	Ea	10up	Wt.
9mm	6 H-1842 \$2.25	\$1.95	15g
12mm	6 H-1843 \$2.45	\$2.20	18g
25mm	4 H-1847 \$3.25	\$2.95	25g

Pot Nut Pack

If you're typical of most hobbyists, your junk box contains a whole swag of pots . . . without nuts! This pack will solve the problem: an assortment of 1/8" and metric pot nuts, plus washers, ready to use. Pack of 20. Cat H-1360

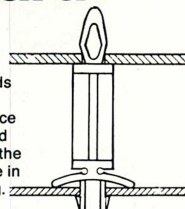


\$5.45 pack of 20

10 up \$4.95

Circuit Board Supports

Designed to hold printed circuit boards in position with sufficient clearance above the chassis. They snap into place and can be easily installed or removed by hand. They require a 4mm hole in the PC board and 4.75mm clearance hole in the chassis. Made of nylon. 9mm long.



Cat H-1981

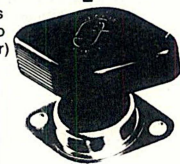
Pack of 6\$1.25

Weight: 3g

10 up \$1.05

Transistor TO-3 Insulating Cap

A high quality plastic cap that is a press fit over TO-3 transistors. Avoid shorts to chassis (which could blow the transistor) or exposed high collector voltages (which could blow you!). Fit a cap to those TO-3's. Cat H-1918



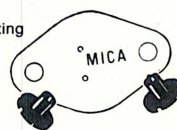
Weight: 5g

50¢
10 up 45¢

Insulated Transistor Mounting Kits

TO-3 Type

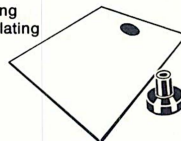
A pack of four TO-3 transistor mounting kits (mica washer and 2 bushes). Specially selected to give maximum heat transfer. Cat H-1917



\$1.25 Weight: 2g
10 up \$1.15

TO-220 Type

Now there's no problem in mounting TO-220 type semis. Pack of 5 insulating washers and bushes. Cat H-1916



95¢ Weight: 3g
10 up 90¢

5mm LED Mounting Bezels

Pack of 15

When making up projects that have LED power indication or otherwise why not 'dress' your LEDs for that added professional touch. They work out at less than 10¢ each! Cat H-1910



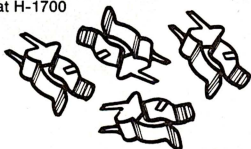
Weight: 8g

Pack of 15\$1.75
10 packs or more \$1.45

3AG PCB Fuse Clips

Made for soldering direct to pcb to give on-board fuse protection. Standard 3AG size, pack of eight means you'll get four fuse holders. Cat H-1700

\$1.45
pack of 8
10 up \$1.30

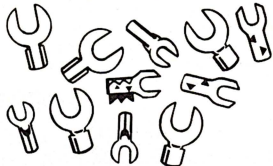


Assorted Spade Lug Pack

Approximately 100 plated finish spade lugs which are ideal for a huge variety of hobbyist uses: speaker connections, earth terminals, automotive wiring, etc. They can be either crimped or soldering depending on the application. Range of sizes supplied. Cat H-1994

Weight: 88g

\$6.95
10 up \$6.30



Assorted Crimp Lug Pack

30 crimp lugs of various types, all with insulation already attached. Can be crimped with either crimping tool or a pair of pliers. 30 lugs and cable joiners in handy pack. Cat H-1996

Weight: 32g

\$5.75
10 up \$5.25

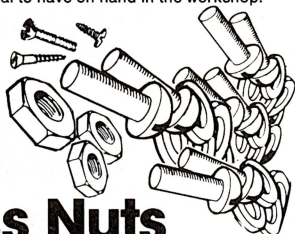


Assorted Metric Screw Pack

Over 200 pieces of the most popular small sizes: M2.5, 3 and 4 nuts and screws — cross, round and countersunk head. Plated finish, ideal to have on hand in the workshop! Cat H-1680

Weight: 67g

\$7.95
10 up \$7.45



Dress Nuts

Pack of 5 5mm dress nuts for standard miniature toggle switches. Makes that panel look really snazzy! Cat H-1912

Weight: 10g

\$1.25
10 up \$1.05



Weatherproof Hoods

Again designed for standard miniature toggle switches, these screw onto the switch to prevent moisture ingress. Ideal for switches in marine applications.

(Note: only protect toggle, not rear of switch). Pack of 8. Cat H-1914

Weight: 15g

75¢
10 up 50¢



Right Angle Brackets

These brackets are made from mild steel with Cadmium plating. They are ideal for projects where right angle mountings have to be made. They have a 3mm clearance. Cat H-1895

Weight: 5g

10 up \$4.15



Grommets

Heavy duty grommets made of black rubber. Essential when cable passes through a metal chassis as they will prevent frayed cables and live chassis.

Hole Size	Bore	No. in Pack	Cat No.	Price	10 up	Wt.
8mm	5.5	10	H-1712	\$1.95	\$1.25	8g
16mm	6	10	H-1716	\$1.45	\$1.25	15g
12mm	9	8	H-1719	\$1.25	\$1.10	13g

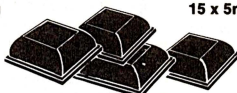


Rubber Feet Self-Adhesive

Just think — no holes to bore in your chassis, you just stick these handsome black feet on! They have hundreds of uses including being used on store bought equipment. Cat H-1745

Weight: 5g

15 x 5mm small square



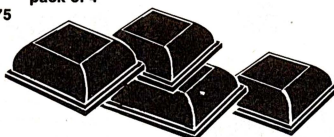
\$1.35
10 up \$1.20

Big Feet!

Similar to above rubber feet, but these ones are 20mm square so they're ideal for bigger projects. Great for replacements, too. Use on commercial equipment to prevent scratches and marks. Pack of 4 feet. Cat H-1749

\$1.95
10 up \$1.75

pack of 4



Rubber Feet — Screw-on

The conventional rubber feet that have a 3mm hole for screw mounting. Made of black rubber, they can also be cemented on to your project. Cat H-1736

8 in a pack

Weight: 10g

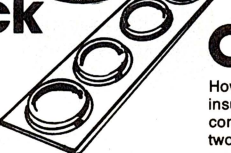
\$1.35
10 up \$1.20



Super Stick Acrylic Bumpons

Yeh, we know. What a name! But they're probably the best "rubber" feet you'll ever find for projects, even for your appliances (videos, cassettes, etc.). Tough acrylic means they won't wear — but they won't scratch either. And they're super self-adhesive: just peel them off their backing paper and stick in position. Amazing? No — but useful! Pack of four Bumpons. Cat H-1740

10 up \$1.10



\$1.25

Cable Clamps

These are heavy duty Nylon cable clamps and are a must for terminating power cords and all cables, especially in projects.

Cables up to 5mm diam.	5 H-1964	95¢	80¢	6g
Cables up to 6mm diam.	5 H-1965	95¢	80¢	5g
Cables up to 8mm diam.	5 H-1966	95¢	80¢	-



Two-part Clamp

Serrated teeth in both parts of these clamps mean positive locking. Include holes through both parts to enable nailing to walls, etc. Heavy duty, pack of five. Cat H-1972



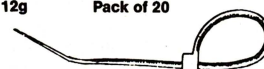
\$1.95
10 up \$1.75

Cable Ties

When making any project, that little extra professionalism will make the job look better. These units will handle up to 20mm diameter and down to 2 single wires. Cat H-1970

Weight: 12g

Pack of 20

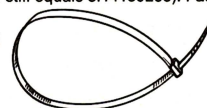


\$1.25
10 up \$1.15

Anchor Cable Ties

Called "anchor" because they'd tie up the QE2! Huge 292mm long, hold large groups of cables (almost 90mm diameter if pi still equals 3.14159268). Pack of 50 ties. Cat H-1968

Weight: 110g



\$5.95
10 up \$5.50

Cable Ties

Not quite as big as above, but still a healthy 156mm — and there's still 50 in the pack! Includes mounting hole for screwing/nailing in position if required. Cat H-1969

Weight: 50g



\$3.95
10 up \$3.60

Cord Clamp Grommets

This is a self-locking grommet that maintains a secure grip on the cable without the use of separate clamps. Both a grommet and a clamp in one! Fits 3 core miniflex or equivalent cable size. Hole size 12 to 16mm. Cat H-1724



Pack of 4
\$1.45
10 up \$1.25

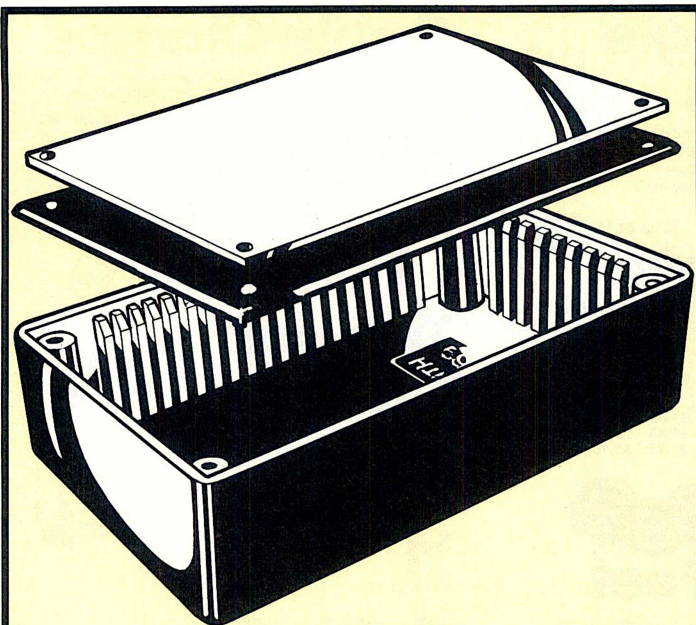
Cable Joiners

How many hours have you spend stripping, soldering and insulating wire? Forget it in the future! These brilliant connectors join wires instantly. All you have to do is lay the two wires to be joined inside the connector and squeeze the connector together with pliers. Can be used in car wiring, trailer wiring, etc. Hundreds of uses. 2 per pack. Cat H-6720



Weight: 5g

Pack of 2
95¢
10 up 85¢



With Both Aluminium And Plastic Lids...

The New Zippy Box

The box most preferred by the major electronics magazines because of its quality and versatility! Now, with every DSE Zippy Box you get an even better finish with a tight fitting plastic and recessed aluminium lid — Yes, two lids with each box!

Not only does the plastic lid have a better finish with smooth rounded corners, but it makes it much easier to seal the box against the elements. Fantastic for projects that are exposed to the weather, etc.

Each DSE Zippy Box has deep ribs for extra strength and are ideal for mounting PCB's without worrying about screws. There's a great range of sizes to suit just about any project!

		Price Ea.	Price 10 up
Small — UB5			
Cat H-2855	28 x 54 x 83mm	\$2.40	\$2.20
Medium — UB3			
Cat H-2853	41 x 68 x 130mm	\$3.00	\$3.25
Large — UB1			
Cat H-2851	50 x 90 x 150mm	\$3.95	\$3.75
Giant — UB2			
Cat H-2852	60 x 113 x 196mm	\$5.50	\$5.10

From
\$2²⁰

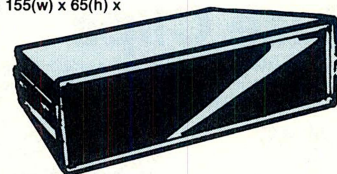
155 x 65 x 160mm

Similar to above case, but more suited to mounting PCB's: contains 16 slots for vertical mounting of 145mm long pcb's (up to 55mm high), also has 23 mounting points for horizontal pcb(s). Very attractive grey colour with black crinkle finish front and rear panels. Box size 155(w) x 65(h) x 160(d)mm. Cat H-2508

Shipping weight: 320g
Shipping size: 180 x 160 x 40mm

\$9⁷⁵

10 up \$9.25



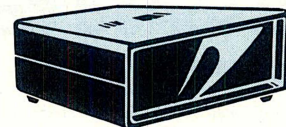
200 x 95 x 140mm

Attractively styled black ABS case complete with handle — ideal for test gear, power supplies, etc to be moved around. Off-white front and rear panels slot into place. Case contains slots for speaker, cooling, etc. Case Size: 200(w) x 95(h) x 140(d)mm. Cat H-2506

Shipping weight: 420g
Shipping size: 220 x 70 x 140mm

\$17⁹⁵

10 up \$17.25



200 x 65 x 160mm

A superb case for all 'instrument' type projects, and many more. Case splits apart for ease of working, comes complete with 4 rubber feet and assembly screws. Amazingly versatile allowing for various PCD mounting positions, front and rear panels are moulded plastic for ease of working (they can be replaced with aluminium panels if required). Size approx. 200 x 160 x 65mm. Cat H-2505

Shipping weight: 385g

\$15⁹⁵

10 up \$15.25

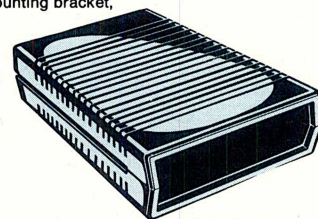


210 x 55 x 175mm

Designed for use with our UHF Transceiver Kit (K-6300), but superb for a large range of instruments, communication equipment, projects, etc. Features removable front and rear panels, easy PCB mounting. Provision for mounting bracket, too. Size 210 x 175 x 55mm. Cat H-2520

\$16²⁵

10 up \$16.10



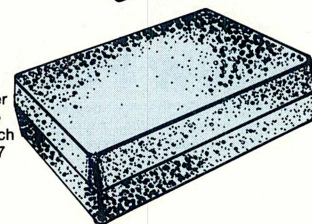
PJ Box

90 x 56 x 32mm

Nicely finished black plastic case for those smaller projects. Made in two identical halves which snap together or can be glued for a watertight seal which makes it ideal for all-weather projects. Cat H-2857

\$1⁹⁵

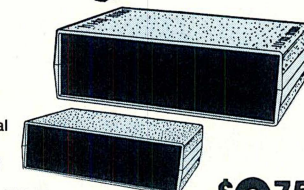
10 up \$1.80



2 Sizes

Superb instrument case with heavy slotting for mounting PCB and extra strength. Has an abundance of mounting points for fixing horizontal PCB's. Finished in grey with black front and rear panels. Complete with case screws and mounting screws.

Cat H-2507 250 x 190 x 80mm **\$17.95** 10 up \$17.25
Cat H-2508 150 x 155 x 60mm **\$9.75** 10 up \$9.25



From **\$9⁷⁵**

"Pocket" Case

A tiny (57 x 36 x 17mm) case intended for pocket or keyring transmitters: infra-red, ultrasonic, UHF, etc for alarms, garage openers, etc. Moulding has provision for 12V lighter battery (VR22) (battery clips included) plus push button (also included). PCB size to 45 x 32mm, case has pocket clip on back. Cat H-2497

Shipping weight: 20g

\$2⁹⁵

10 up \$2.70



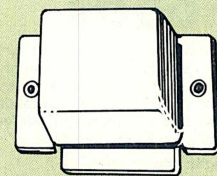
Junction Case

Unique design intended for use as low voltage junction point (eg in cars, for hifi, etc). Gives extra security for the junction. Includes mounting plate and cover with room for cable entry both sides. Would also take small pcb to 40 x 45mm. Cat H-2830

Shipping weight: 50g

\$2⁵⁰

10 up \$2.25

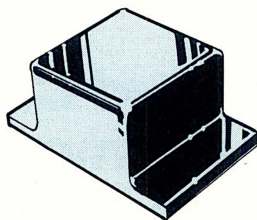


Plastic Instrument Cases

66 x 46 x 30mm

Moulded case for small projects. Complete with 'matrix' style assembly board, lid has flange mounts. Case size 66 x 46 x 30mm. Ideal for car projects!

Cat H-2765



\$4⁹⁵

10 up \$4.55

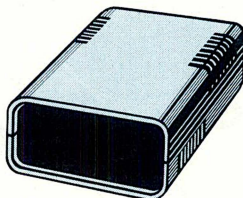
95 x 45 x 145mm

This precision instrument case, exclusive to Dick Smith Electronics has a specially designed vent system to allow for free circulation of air. Its unique snap together design means that no screws are required. With front and back panels included this case is ideal for small projects. Size 95 x 145 x 45mm. Cat H-2503

Weight: 100g

\$9⁹⁵

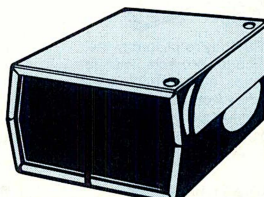
10 up \$9.45



130 x 75 x 130mm

Heavy slotting makes this the ideal power supply case — or other heat generating projects. Includes both front and rear panels, slot system makes for easy pcb mounting. 130 x 130 x 75mm. Cat H-2516

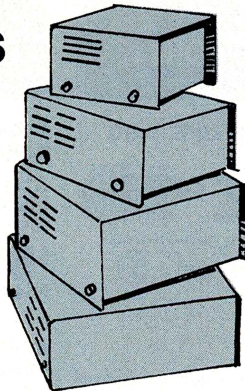
\$9⁹⁵ 10 up \$9.30



Metal Cabinets

Beautifully made cabinets to suit a huge variety of projects, especially those with meters, control, etc. which need to be mounted on the front panel. They consist of an aluminium base, slots, and self-tapping screws complete with cup washers. All-in-all a case you'd be proud to put your prestige projects into. They come in an attractive two-tone finish.

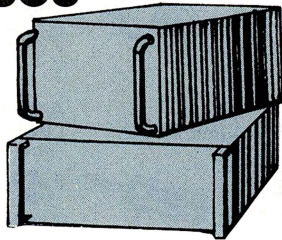
	Ea	10 up	Wt.
102 x 56 x 83mm Cat H-2741	\$5.95	\$5.50	180g
150 x 61 x 103mm Cat H-2742	\$6.25	\$5.95	280g
150 x 76 x 134mm Cat H-2743	\$6.95	\$6.60	340g
185 x 70 x 160mm Cat H-2744	\$9.95	\$9.50	440g



"Horwood" Instrument Cases

Favourites of hobbyists and professionals around the world — Horwood cases feature removable front and rear panels, lids, and front-mounted handles to make them look really professional. Available in two sizes:

203 x 102 x 254mm. Weight: 1 kg	Cat H-2455	\$29.95
310 x 75 x 250mm. Weight: 1.2kg	Cat H-2465	\$31.95

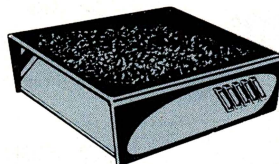


All-steel Project Case

Two-part case ideal for all your small instruments, etc. Twin 'U' construction, top is slotted for ventilation. Size 160 x 130 x 50mm. Finished in Blue with metallic base. Cat H-2762

\$9.95 Shipping weight: 380g

10 up \$9.50

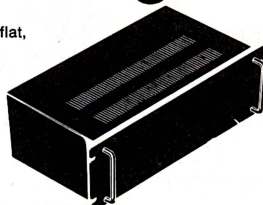


19" Rack Mounting Case

Quality black instrument case fits standard 19" racks, overall they're 4.2 x 25 x 14cm. Supplied flat, assembly takes just a couple of minutes. Heavy gauge (3mm) front panel; top and bottom pre-punched for ventilation. Cat H-2481

\$54.95 Shipping weight: 330g

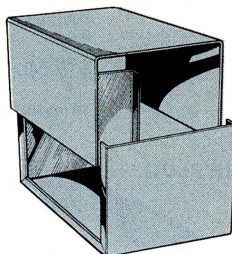
10 up \$51.95



Aluminium Boxes

Just the shot for those weekend projects that get left lying around! Put them in an economical aluminium box... The boxes come in two pieces which slide together — they even come with screws to hold them together! Versatile and very useful — and in a wide range of sizes. Natural finish.

	Ea	10 up	Wt.
110 x 51 x 70mm Cat H-2300	\$3.75	\$3.40	80g
104 x 60 x 46mm Cat H-2305	\$3.75	\$3.50	69g
127 x 102 x 76mm Cat H-2320	\$4.95	\$4.50	148g
133 x 76 x 54mm Cat H-2325	\$4.50	\$4.05	104g
152 x 132 x 103mm Cat H-2330	\$6.75	\$6.10	251g
180 x 158 x 118mm Cat H-2335	\$9.95	\$9.35	364g

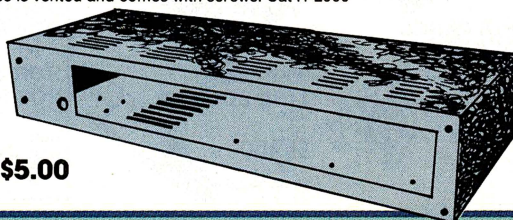


Low Cost Amp Metalwork

Two part assembly which fits together to form case and chassis. Pre-drilled and punched, it's designed for our Low Cost Amp (K-4001) but you'll find it ideal for many custom built amps. Case is vented and comes with screws! Cat H-2900

\$19.95

10 up \$18.95

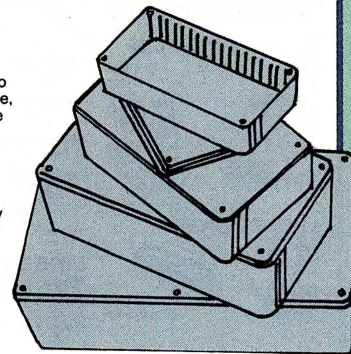


SAVE \$5.00

Diecast Aluminium Boxes

Precision die-cast boxes have always been expensive, but these boxes prove you don't have to pay through the nose! English and Australian made, and you save a fortune over inferior models! These are the ones with channelled walls for easy PCB mounting — and they're ideal for RF circuits because the lid forms a very effective screen. They're also great for circuits involving heat — remember diecast aluminium makes a great heatsink. And these boxes will withstand incredibly high temperatures: up to 600°C! Complete with screws.

	Ea	10 up	Wt.
190 x 60 x 110mm Cat H-2201	\$18.95	\$17.95	546g
150 x 50 x 80mm Cat H-2206	\$12.95	\$11.95	296g
120 x 40 x 65mm Cat H-2211	\$8.50	\$7.75	359g
100 x 25 x 50mm Cat H-2221	\$6.75	\$6.45	204g



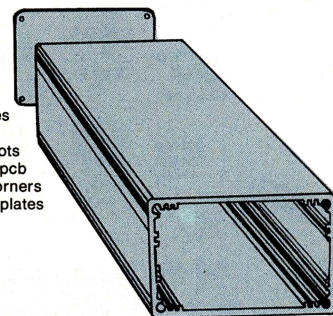
Extruded Aluminium Cases

Superb range of cases based on a specially made 18 gauge aluminium extrusion giving cases which are ultra strong, ultra reliable. The extrusion measures 76 x 102mm — and is available in three different lengths. Internally, there are four slots for insertion of pcb's without use of screws (pcb width 92 or 71mm). End plates fasten into corners of extrusion with PK screws. Includes 2 end plates and 8 screws.

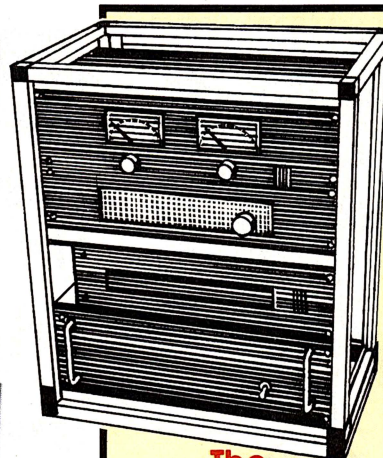
76mm length Cat H-2420 **\$14.95**
Weight: 180g
Case size: 102 x 76 x 76mm

102mm length Cat H-2425 **\$16.95**
Weight: 230g
Case size: 102 x 76 x 102mm

153mm length Cat H-2430 **\$18.95**
Weight: 330g
Case size: 102 x 76 x 153mm



From
\$14.95



DSE Zip-Rack

There's only one rack system built in Australia that encompasses all the quality and features of a professional system at a budget price! The multi-system designed to handle both standard (19") and non standard equipment. Don't settle for second best! Only DSE has the genuine Zip-Rack which offers heavy duty aluminium section (the others use light duty), nylon caps for surface protection (the others let you scratch the desk), tough black corner moulds (they use SOFT grey plastic), two sizes to choose from and all these other features as well...

- Incredibly easy to assemble
- Both Front and Rear mounting facilities
- Integrated stand-off feet for maximum air flow
- Can be stacked to house ALL your equipment
- Allows non-standard equipment to be mounted
- Comes complete with Philips head screws, nylon washers and captive nuts for mounting.
- Attractive anodised finish
- Measures 540 (W) x 360 (D) x 675mm (H)

Zip-Rack the quality mounting system for test gear, audio, video, hi-fi, PCB sub racks, kits... the lot!

More Space!

Also available is the larger Model 18RU measuring 540 (W) x 360 (D) x 943mm (H). Still with the same great features. **\$119**
Cat H-2470

The Superior Rack System...

Model 12RU Cat H-2469

\$99

Zip-Rack Equipment Tray **\$19.95**

Specially designed tray lets you mount non-standard equipment on your Zip-Rack. Includes nylon clips. Ideal for computer, CB, amateur, video, etc, etc! 485mm (19") x 330mm. Cat H-2471

Hardware Pack

Allows you to mount 19" equipment directly into your Zip-Rack without using trays. Cat H-2472

\$9.95

PLUGS & SOCKETS AUDIO

PHONO

2.5mm MINIATURE
Plug P-1125
40¢
10 up 35¢



Socket P-1220
50¢
10 up 45¢



LINE SOCKET
Plastic P-1232
65¢
10 up 58¢



3.5mm MINIATURE
Plug Red P-1132
Black P-1134
50¢
10 up 45¢



Socket P-1231
60¢
10 up 54¢



Stereo Plug
P-1140
95¢
10 up 85¢



Stereo Socket
P-1240
\$1.40
10 up \$1.25



3.5mm METAL PLUG
P-1136
\$1.05
10 up 95¢



LINE SOCKET
Red P-1234
Black P-1236
65¢
10 up 58¢



STEREO LINE SOCKET
P-1238
\$1.00
10 up 85¢



6.5mm STANDARD



Plug P-1160
\$1
10 up 90¢



Socket P-1261
\$1.25
10 up \$1.10



Metal Plug
P-1162
\$1.50
10 up \$1.35



Stereo Plug
P-1166



\$1.25
10 up \$1.15



Stereo Socket
P-1266



\$1.50
10 up \$1.35



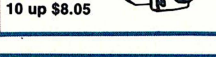
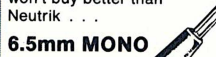
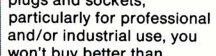
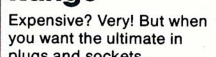
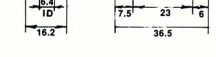
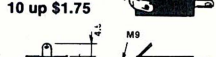
Metal Stereo Plug
P-1168
\$1.75
10 up \$1.60



LINE SOCKET
Mono: P-1264
Stereo: P-1286
\$1.15
10 up \$1.05



STEREO PANEL SOCKET WITH DPDT SWITCH
Ideal for headphone sockets
Neutrik P-1276
\$1.95
10 up \$1.75



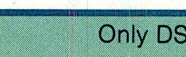
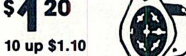
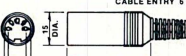
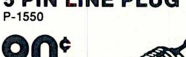
RCA

PLUGS
Red P-1420
Black P-1422
50¢
10 up 45¢



DIN

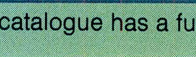
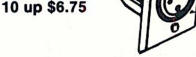
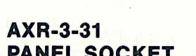
2 PIN LINE PLUG
P-1520
70¢
10 up 65¢



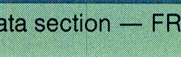
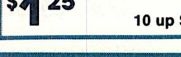
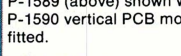
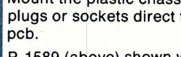
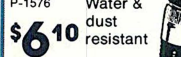
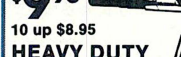
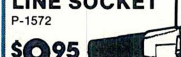
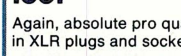
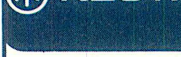
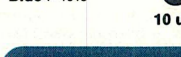
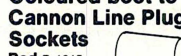
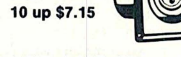
CANNON

STANDARD AUDIO RANGE

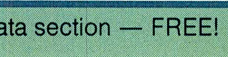
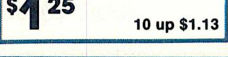
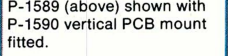
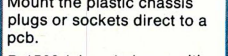
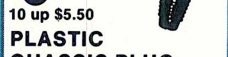
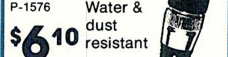
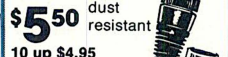
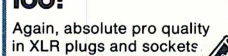
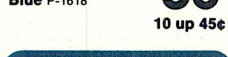
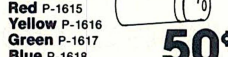
AXR-3-11 LINE SOCKET
P-1620
\$5.25
10 up \$4.70



AXR-LNR-31 PANEL SOCKET
P-1630
\$7.95
10 up \$7.15



Coloured boot to fit Cannon Line Plugs & Sockets
Red P-1615
Yellow P-1616
Green P-1617
Blue P-1618
50¢
10 up 45¢

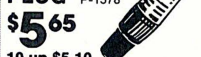


NEUTRIK

NEW! Neutrik Pro-Quality Plug & Socket Range

Expensive? Very! But when you want the ultimate in plugs and sockets, particularly for professional and/or industrial use, you won't buy better than Neutrik.

6.5mm MONO PLUG
P-1578
\$5.65
10 up \$5.10



6.5mm STEREO PLUG
P-1580
\$8.35
10 up \$7.55



6.5mm RIGHT ANGLE PLUG
P-1582
\$10.75
10 up \$9.65



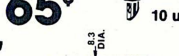
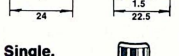
6.5mm STEREO LINE SOCKET
P-1584
\$8.60
10 up \$7.75



6.5mm STEREO PANEL SOCKET
P-1586
\$8.95
10 up \$8.05



PANEL SOCKET
Single P-1440
70¢
10 up 63¢



UHF

PL-259

Coax line plug, wide back to suit RG8-U, UR67, RG213 P-2310

\$1.95



10 up \$1.75

PL-259

As above, but narrow back to suit RG-58U, etc. P-2311

\$1.95



10 up \$1.75

PL-259 REDUCER

No soldering required, use with PL-259 to give tight fit for 50 ohm coax. Suit P-2310 (above). P-2360

60¢



10 up 55¢

SO239 JOINER

Two sockets for use back to back with PL-259. P-2380

\$2.50



10 up \$2.25

SINGLE MOUNT SOCKET

SO-239 To accept PL-259 plug. Single hole chassis mounting. Cat P-2342

\$2.10



10 up \$1.90

PANEL MOUNTING SOCKET BULKHEAD

SO-239 to suit PL-259. Screw mounting. P-2340

\$1.90



10 up \$1.70

T-CONNECTOR

With PL-259 plug & SO-239 sockets. P-2384

\$5.95



10 up \$5.35

RIGHT ANGLE

With SO-239 socket & PL-259 plug. Cat P-2382

\$3.95



10 up \$3.55

'N' CONNECTORS NICKEL PLATED

Male Line Plug Cat P-2400

\$8.95



10 up \$8.10

Female Line Socket

P-2405

\$8.95



10 up \$8.10

BNC

BNC LINE PLUG

Suitable for RG58U cable. P-2210

\$2.95

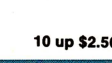


10 up \$2.65

BNC PANEL SOCKET

Accepts P-2210. P-2220

\$2.75



10 up \$2.50

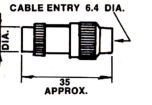
CO-AXIAL TV

PLASTIC LINE PLUG

P-2021

\$1.20

10 up 90¢



PLASTIC LINE SOCKET

P-2031

\$1.20

10 up \$1.10



METAL LINE PLUG

P-2020

\$1.80

10 up \$1.60



METAL LINE SOCKET

P-2030

\$1.80

10 up \$1.60



PANEL SOCKET

Suits P-2020, P-2021 P-2040

\$1.10

10 up 95¢

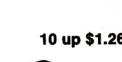


IN LINE JOINER

Suits P-2020, P-2021 P-2070

\$1.40

10 up \$1.25

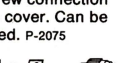


75 OHM CABLE JOINER

Positive screw connection with plastic cover. Can be waterproofed. P-2075

\$1.50

10 up \$1.35



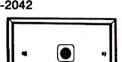
TV WALL PLATE

with 75 ohm socket

Plastic wall plate with built in 75 ohm TV connector. Can also be used as a 75 ohm splitter. Cat P-2042

\$4.95

10 up \$4.45



300 OHM TV

WALL SOCKET & PLUG

Suit ribbon cable. Comes with plug. P-2080



\$2.95

10 up \$2.65

PLUG ONLY

P-2082

\$1.20

10 up \$1.05

SOLDERLESS PLUG

No soldering required: snap apart construction. P-2084

\$1.20

10 up \$1.10

CABLE JOINER

An age-old problem solved! 300 ohm ribbon plug and socket, no soldering required. P-2086

\$1.95

10 up \$1.75

UNIVERSAL TV

System of wall plates and inserts covering 3 major system... Just snap in the insert required.

WALL PLATES

Large and small, same size as standard light switch architrave plates.

Large

P-2050 **\$2.50**

Small

P-2052 **\$1.75**

INSERTS

Push-fit inserts to suit above plates.

300 ohm

P-2056 **\$2.50**

75 ohm

P-2054 **\$2.50**

"F" Type

P-2058 **\$3.20**

10 up \$2.85

CAR RADIO ANTENNA

ANTENNA PLUG

P-2000 **75¢**

10 up 70¢

CHASSIS MOUNT SOCKET

P-2004 **75¢**

10 up 70¢

DC POWER

STAR PLUG

P-1670
2.5 & 2.1mm (as below) plus 2.5 & 3.5mm phono type all on one unit. Simply plugs in a 2.5mm plug. Reversible polarity.

\$2.95

10 up \$2.65

1.3mm PLUG

P-1643 **60¢**

10 up 54¢

2.1mm PLUG

P-1641 **60¢**

10 up 55¢

2.1mm PLUG

P-1642 Longer Shaft **70¢**

10 up 65¢

2.5mm PLUG

P-1645 **50¢**

10 up 45¢

2.5mm PLUG

P-1646 Longer Shaft **70¢**

10 up 65¢

2.1mm SOCKET Switching type

P-1661 **75¢**

10 up 67¢

2.5mm SOCKET Switching type

P-1666 **75¢**

10 up 67¢

CAR CIG LIGHTER PLUG

Extremely handy for operating recorders or any other 12 volt appliances in your car. P-1675

\$1

10 up 95¢

BATTERY SNAP

Suit 216. P-6216

30¢

10 up 25¢

4 x "A" SIZE HOLDER — LONG FLAT

P-6114 **85¢**

10 up 80¢

4 x "AA" SIZE HOLDER — SQUARE

P-6124 **95¢**

10 up 90¢

6 x "AA" SIZE HOLDER — RECTANGULAR

P-6116 **\$1.00**

10 up 90¢

8 x "AA" SIZE HOLDER — RECTANGULAR

P-6128 **\$1.45**

10 up \$1.35

BATTERY HOLDER 10 x "AA"

P-6130 **\$1.75**

10 up \$1.60

4 x "C" SIZE HOLDER — FLAT

P-6104 **\$1.25**

10 up \$1.15

1 x "D" SIZE HOLDER — SQUARE

P-6101 **75¢**

10 up 70¢

BATTERY HOLDER 9V CHASSIS/PCB MOUNT

P-6220 **\$3.75**

10 up \$3.35

BATTERY HOLDER & SNAPS

BATTERY SNAP

Suit 216. P-6216

30¢

10 up 25¢

4 x "A" SIZE HOLDER — LONG FLAT

P-6114 **85¢**

10 up 80¢

4 x "AA" SIZE HOLDER — SQUARE

P-6124 **95¢**

10 up 90¢

6 x "AA" SIZE HOLDER — RECTANGULAR

P-6116 **\$1.00**

10 up 90¢

8 x "AA" SIZE HOLDER — RECTANGULAR

P-6128 **\$1.45**

10 up \$1.35

BATTERY HOLDER 10 x "AA"

P-6130 **\$1.75**

10 up \$1.60

4 x "C" SIZE HOLDER — FLAT

P-6104 **\$1.25**

10 up \$1.15

1 x "D" SIZE HOLDER — SQUARE

P-6101 **75¢**

10 up 70¢

BATTERY HOLDER 9V CHASSIS/PCB MOUNT

P-6220 **\$3.75**

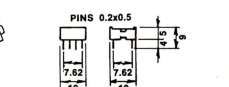
10 up \$3.35

IC SOCKETS & PLUGS

Why endanger valuable IC's by soldering them directly into circuit? Take the safe approach: use an IC socket! It makes service and repair of your project much, much easier too. There's an IC socket to suit almost all common ICs.



8 Pin Mini DIL Socket 20¢
P-4080 10 up 18¢



14 Pin DIL Socket 25¢
P-4140 10 up 22¢

14 Pin DIL Plug \$2.40
P-4142 10 up \$2.15

16 Pin DIL Socket 30¢
P-4160 10 up 27¢

16 Pin DIL Plug \$2.50
P-4162 10 up \$2.25

18 Pin DIL Socket 35¢
P-4180 10 up 32¢

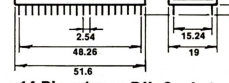
20 Pin DIL Socket 45¢
P-4200 10 up 40¢

22 Pin DIL Socket 50¢
P-4220 10 up 45¢

24 Pin DIL Socket 55¢
P-4240 10 up 50¢

28 Pin DIL Socket 60¢
P-4245 10 up 55¢

40 Pin DIL Socket 65¢
P-4250 10 up 60¢



14 Pin w/wrap DIL Socket \$2.00
P-4260 10 up \$1.80

16 Pin w/wrap DIL Socket \$2.50
P-4262 10 up \$2.25

20 Pin w/wrap DIL Socket \$3.00
P-4264 10 up \$2.70

24 Pin w/wrap DIL Socket \$4.00
P-4268 10 up \$3.60



MOLEX IC SOCKET STRIP

Make your own IC Sockets! Fantastic idea! Never run out of IC sockets — because you make your own. Just cut the required number of pins from the strip and solder them in. After you insert the IC, you break off the carrier strip (also helps protect the IC from static damage).

COMPUTER CONNECTORS

PRINTER PLUG

57-30360 type, suits most printers. With cover. P-2680

\$12.50

10 up \$11.25



PRINTER SOCKET

57-403360 Centronics type socket. P-2681

\$12.50

PCB mount
10 up \$10.50

RGB MONITOR

PLUG 8 PIN
P-2682

\$10.35

10 up \$9.35



36 WAY IDC FLAT RIBBON CENTRONICS TYPE PLUG

P-2678

\$12.50

10 up \$12.25



25 PIN IDC FLAT RIBBON

Plug P-2693

\$10.45

10 up \$9.40



PCB CARD EDGE IDC CONNECTORS

34-way P-2760

\$10.50

10 up \$8.50

40-way P-2762

\$11.50

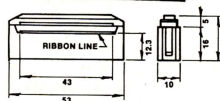
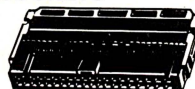
10 up \$9.50

50-way P-2764

\$14.25

10 up \$12.75

IDC FLAT RIBBON SOCKETS



34-way P-2750

\$5.50

10 up \$4.95

40-way P-2752

\$6.50

10 up \$5.85

50-way P-2754

\$7.25

10 up \$6.50

'D' TYPE CONNECTORS PLUGS (Solder Tail)



25 pin P-2690

\$3.70

10 up \$3.35

15 pin P-2687

\$3.25

10 up \$2.95

9 pin P-2684

\$2.75

10 up \$2.50

SOCKETS (Solder Tail)



25 pin P-2691

\$5

10 up \$4.50

15 pin P-2688

\$3.95

10 up \$3.55

9 pin P-2685

\$3.50

10 up \$3.15

BACKSHELLS

Suit P-2690 & P-2691

P-2692

\$2.20

25 pin 10 up \$1.95

Suit P-2687 & P-2688

P-2689

\$2.20

15 pin 10 up \$1.95

Suit P-2684 & P-2685

P-2686

\$2.20

9 pin 10 up \$1.95

Socket P-2694

\$10.45

10 up \$9.40

25-PIN 47 41.5 53.3

9-PIN 24.8 19.5 31

\$8.25

10 up \$7.40

25 PIN R/ANGLE PCB MOUNT

P-2695

\$12.95

10 up \$11.75

Female

Twin DB25 female

connectors wired back to

back. Cat X-3566

Male

As above, but male DB25's.

Cat X-3565

\$12.95

10 up \$11.75

Both

\$12.95

10 up \$11.75

Breakout Boxes

Temporary

Twin male DB25 connectors

with wire links supplied for

temporary connection.

Cat X-3568

\$27.50

10 up \$24.75

Permanent

As above, but connections

to be made internally and

soldered. Cat X-3569

\$9.95

10 up \$8.95

ADAPTORS

3.5mm STEREO SOCKET TO 6.5mm STEREO PLUG

Cat P-6500

\$1.95

10 up \$1.75



6.5mm STEREO SOCKET TO 3.5mm PLUG

Cat P-6505

\$1.95

10 up \$1.75



6.5mm SOCKET TO 3.5mm PLUG

Cat P-6510

\$1.95

10 up \$1.75



3.5mm SOCKET TO 6.5mm PLUG

Cat P-6520

\$1.95

10 up \$1.75

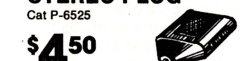


2 x 3.5mm STEREO PLUGS TO 1 x 3.5mm STEREO PLUG

Cat P-6525

\$4.50

10 up \$4.05

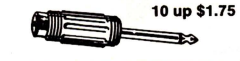


RCA SOCKET TO 6.5mm PLUG

Cat P-6530

\$1.95

10 up \$1.75



3.5mm SOCKET TO RCA PLUG

Cat P-6540

\$1.95

10 up \$1.75



6.5mm SOCKET TO RCA PLUG

Cat P-6550

\$1.95

10 up \$1.75



RCA SOCKET TO 3.5mm PLUG

Cat P-6560

\$1.95

10 up \$1.75



6.5mm STEREO SOCKET TO 6.5mm PLUG

Cat P-6570

\$1.95

10 up \$1.75



6.5mm STEREO SOCKET TO 6.5mm STEREO PLUG

Cat P-6580

\$1.95

10 up \$1.75 ea.

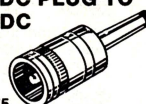


1.3mm DC PLUG TO 2.1mm DC

Cat P-6591

\$1.95

10 up \$1.75



BNC TO UHF PL-259 PLUG

P-2240

\$3.95

10 up \$3.55

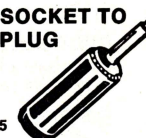


3.5mm SOCKET TO 3.5mm PLUG

Cat P-6600

\$1.95

10 up \$1.75



BNC TO RCA SOCKET

P-2250

\$2.25

10 up \$2.00



1 x RCA PLUG TO 2 x RCA SOCKET

Cat P-6610

\$3.95

10 up \$3.55



"F" MALE PLUG TO RCA SOCKET

P-2100

\$3.45

10 up \$3.10



TELECOM TYPE 605 PLUG

F-5117

\$4.50

10 up \$4.05



TELECOM TYPE 610 SOCKET

F-5118

\$4.50

10 up \$4.05



MICROPHONE

4 POLE METAL PANEL Mt. Plug

P-1824

\$3.50

10 up \$3.15



PHONE DOUBLE ADAPTOR

F-5112

\$9.95

10 up \$9.00



MODULAR PHONE PLUG

F-5094

\$5

10 up \$4.50

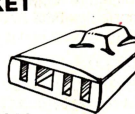


MODULAR PHONE SOCKET

F-5095

\$5

10 up \$4.50



NEUTRIK MODULAR ADAPTOR SYSTEM

What a brilliant idea! Make up the adaptors and connectors you want to suit your application — with the professional quality assurance of world-famous Neutrik.

Intended mainly for studio, broadcasting, live music and other "must work" situations, the Neutrik Modular System is also ideal for PA, bands, clubs, churches, etc. — or even the audio enthusiast who simply wants "the best".

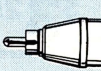
Plugs/sockets are available in XLR, 6.5mm, BNC and RCA varieties, along with a switch to enable lines to be isolated right at the plug.

All modules have an internal (female) thread and are linked together with short or long housings. These can take internal transformers, small pcb's etc. Screw fittings are held together with "Locktite" or similar.

RCA PLUG

P-1599

\$9.50



10 up \$8.55

XLR FEMALE PLUG

P-1593

\$8.95

10 up \$8.10



6.5mm PLUG

P-1596

\$7.75

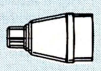
10 up \$6.97



RCA JACK

P-1600

\$8.10



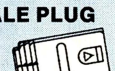
10 up \$7.30

XLR MALE PLUG

P-1592

\$8.75

10 up \$7.90



6.5mm STEREO PLUG

P-1597

SWITCHES

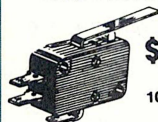
MICRO SWITCHES

MICRO SWITCHES

Micro switches are used wherever a limited switching movement is required — they require only 2 or 3mm of blade movement to actuate. Very positive switching action when triggered — ideal for use in burglar alarms, machinery guards and limit switches, tamper switches, etc. Cat S-1920

Features:

SPDT Contacts
Body Size: 10.5mm x 28mm
Quick connect terminals

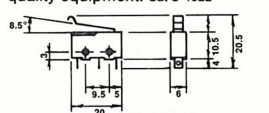


\$275

10 or more \$2.50 each

MINI MICRO SWITCHES

Tiny version of micro at left: just 20 x 10 x 6mm. SPDT contacts with mini quick connect terminals (just as easily soldered to!). Hole mounting 10mm apart. Actuator arm has curved end for cam or chain follower. Ideal for high quality equipment. Cat S-1922



\$150

10 or more \$1.25 each

TOGGLE SWITCHES

ULTRA MINIATURE DPDT

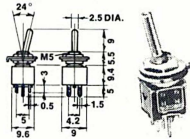
The contact rating to size ratio is very high with this miniature toggle switch. Ideal for models, miniature portable instruments, or any use where a high quality miniature switch is required. Cat S-1245

DPDT

125V AC 3A (240V AC 1.5A)
Chrome toggle with colour insert
Body size: 8mm x 9.3mm
Clearance: 13.5mm
Complete with 2 nuts and 2 washers.
Gold plated connecting tips.

\$295

10 or more \$2.65 each



ULTRAMINIATURE RIGHT ANGLE MOUNT

For soldering direct to horizontal pcb with switch emerging through vertical front panel. Very small size suits mini projects, ratings enough for mains switch. Cat S-1247

Features:

250V AC 1.5A
Body size 8 x 5 x 20mm
(including pins & toggle)
Pins on 2.5mm centres
(can be played)
Front panel hole size 5mm diam



\$295

10 or more \$2.65 each

MINIATURE TYPES

Most popular range — specially imported — excellent quality

Due to the quality of these switches they can be used in many applications.

All feature:

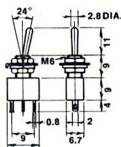
125V AC 5A (240V AC 2A)
Chrome toggle with colour insert.
Complete with two nuts and two washers.
Mounting hole size — 6mm.

SPDT

Body 8mm x 13mm, clearance 17mm. Cat S-1173
125V AC 5A (240V AC 2A)

\$175

10 or more \$1.55 each



DPDT

Body 13mm x 13mm, clearance 17.5mm. Cat S-1174
125V AC 5A (240V AC 2A)

\$195

10 or more \$1.75 each

DPDT CENTRE OFF

Body 12mm x 12mm, clearance 20.5mm. Cat S-1286
125V AC 5A (240V AC 2A)

\$250

10 or more \$2.25 each

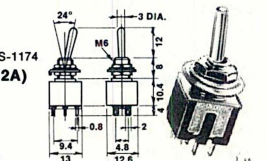
DPDT CENTRE OFF MOMENTARY ONE SIDE

As above S-1286 switch, but with a spring-return momentary position on one side. Cat S-1287

125V AC 5A

\$450

10 or more \$3.25 each

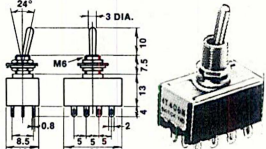


4PDT

Body 13mm x 21.5mm, clearance 20.5mm. Cat S-1175

\$1095

10 or more \$9.95 each



HEAVY DUTY DPDT

Amazing contact capacity!

Although this switch is miniature in size, it offers an enormous contact to size ratio. Ideal for use where high power levels are involved and small size is of prime importance. Cat S-1168

Features:

125V AC 10A
Chrome toggle with plastic cap.
Body size: 12mm x 12.5mm
Clearance: 20.5mm
Mounting hole: 6mm

\$495

10 or more \$4.45 each



RIGHT ANGLE PCB MOUNTING

With extended right angle lugs for soldering direct to pcb. No mounting nuts required (there's no thread anyway!) Same style actuator as mini toggle switches above. Cat S-1180

Chrome toggle and body
Mounting hole 6mm

\$325

10 or more \$2.95 each

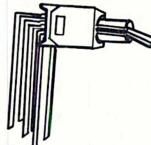


PCB Mounting Centre Off

Right angle legs for pcb mounting, double pole changeover type with centre off position. **Size: Body 9 x 7 x 20 (inc toggle), legs 13mm extension. 120V AC 1A.** Cat S-1251

\$325

10 up \$2.95



PCB Mounting Changeover

As above, but without the centre off position. Also rated higher: **1A 250V AC, 3A 120V AC.** Cat S-1249

\$295

10 or more \$2.65 each

Momentary Action Centre Off

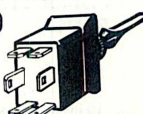
Low voltage, high current switch for vehicle applications: ideal for electric car antennas, etc. Has two sprung positions giving DPDT action with centre off. Large actuating paddle. Cat S-1085

12V DC, 20A

Body size 25 x 32 x 30 (not paddle), standard including
Mounting hole 12mm
30mm paddle.

10 or more \$4.00 each

\$450



STANDARD SPST

A well designed switch in a bakelite case. It has a chrome toggle and is complete with two nuts and chrome ON/OFF indicator plate. Ideal for electric projects and automotive use. Cat S-1215

Features:

125V AC 3A
Body Size: 14mm x 26mm
Clearance: 20.5mm
Mounting Hole: 12mm

\$195

10 or more \$1.75 each

STANDARD DPDT

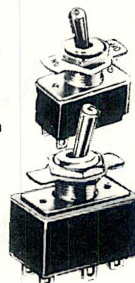
Same general features as the above switch. Cat S-1216

Features:

125V AC 3A (240V AC 1.5V)
Body Size: 18mm x 29.5mm
Clearance: 23mm
Mounting hole: 12mm

\$225

10 or more \$1.95 each



STANDARD DPDT CENTRE OFF

Rugged bakelite case, chrome toggle, red and black ON/OFF/ON indicator plate and heavy duty solder lug terminals. This switch features heavy duty contact rating. Makes ideal motor reversing switch, eg electric aerial on cars. Cat S-1217

Features:

125V AC 10A
Body Size: 20mm x 35mm
Clearance: 26mm
Mounting Hole: 12mm

\$250

10 or more \$2.25 each



Waterproof Toggle

Fully sealed SPST toggle for low voltage applications. Toggle has rubber boot to ensure complete waterproofing. Ideal for marine use & other hostile environments. Cat S-1195

12V DC, 10A rating.

Body size: 30 x 18 x 35mm
Mounting Hole: 12mm

\$895

10 or more \$7.95 each



PIANO KEY DPDT

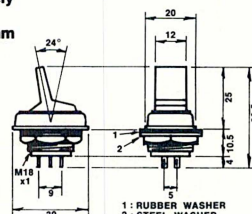
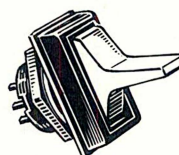
Ideal for audio and electronic projects. Superbly engineered and has a white toggle. Cat S-1393

Features:

Mounting Hole: 18mm
Clearance: approximately 15mm
Body Size: 20mm x 30mm

\$495

10 or more \$4.55 each



ILLUMINATED SPST (12V)

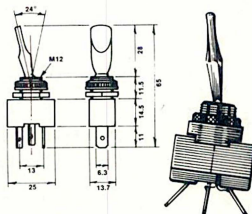
Intended for automotive use. The soft glow from the toggle is not distracting, but means the switch can quickly be located. 12V lamp operates from supply being switched. Cat S-1214

Features:

12V DC, 16A contacts
9mm mounting hole
Body Size: 28 x 15mm

\$425

10 or more \$3.95 each

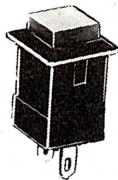


PUSH BUTTON SWITCHES

ILLUMINATED SP MOMENTARY

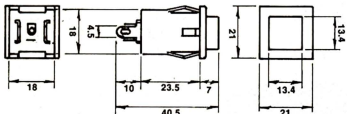
This switch features a beautiful red 11mm square actuating button in an all black plastic case. Makes an excellent mains switch for projects. Cat S-1078

Features:
125V AC 1A
Body size: 18mm x 18mm
Clearance: 34mm
Hole cut out size: 18.5mm x 18.5mm
Indicator lamp: 6.3V



\$3.50

10 or more \$3.15 each



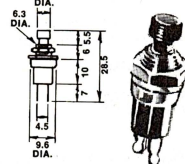
MINIATURE SP — NORMALLY OPEN

These are all plastic body with red illuminated push button bezel. Cat S-1102

Features:
125V AC 1A
Body Size: 28.5mm x 10mm
Clearance: 15mm
Hole Size: 7mm

95¢

10 or more 75¢ each



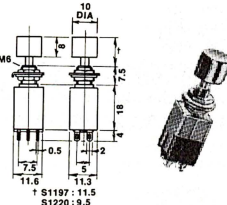
SP ALTERNATE ACTION

The professional Miniature! Ideal for equipment where space is very limited. It features a positive push on/push off action. The actuating black plastic button is 10mm in diameter. Cat S-1197

Features:
125V AC 3A
Body Size: 11.5mm x 11.5mm
Clearance: 22mm
Hole Size: 6mm

\$4.50

10 or more \$3.95 each



DPDT MOMENTARY ACTION

This is an extremely high quality push button switch featuring precise micro switch type action. The plastic actuator button is small to conserve space whereby you can stack these switches side by side etc. Ideal for computer program switch. Cat S-1220

Features:
125V AC 3A
Body Size: 13mm x 13mm
Clearance: 14.5mm
Hole Size: 6.5mm

\$4.50

10 or more \$3.95 each



SP ALTERNATE ACTION

This switch features a beautiful red 11mm square actuating button in an all black plastic case. Makes an excellent mains switch for projects. Cat S-1198

Features:
125V AC 3A
Body Size: 15mm square
Clearance: 28mm
Hole Size: 12mm

\$1.95

10 or more \$1.75 each



SP MOMENTARY ACTION

As above switch, Cat S-1198, but with momentary action push/on. Cat S-1199

Features:
125V AC 3A
Body Size: 15mm square
Clearance: 28mm
Hole Size: 12mm

\$1.95

10 or more \$1.75 each



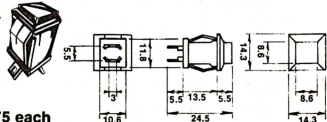
PUSH BUTTON RED/BLUE

Red or blue mini push buttons — ideal for colour coding control panels, etc. Each handles up to 0.5A at 240V AC (1A 125V) and are momentary action (on when pushed). Switch size 14mm square; take 11mm x 12.5mm mounting hole.

BLUE: Cat S-1074
RED: Cat S-1076

\$1.95

10 or more \$1.75 each



DOOR BELL PUSH BUTTON

The kind the Avon Ladies love! Standard white/black push button to suit most types of low voltage door bells. Two screws mount to any flat surface. Cat S-1077

\$2.95

10 or more \$2.65 each



ILLUMINATED PUSH BUTTON

Lamp 12 V @ 55mA

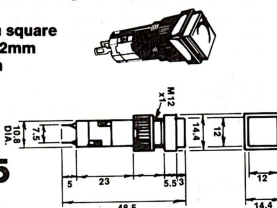
As used in car burglar alarms, control panels, etc. Alternate action switch with inbuilt 12V globe. Square finish body, round mounting hole. Cat S-1520

125V AC 3A
Body Size: 14mm square
Mounting Hole: 12mm
Clearance: 40mm

Blue: S-1521
Green: S-1522
Yellow: S-1523

\$12.95

10 or more \$11.75 each

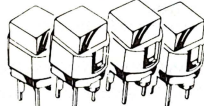


PACK OF FOUR PUSH BUTTONS

Ideal for mounting on PCB's. These are momentary PUSH ON switches that have a positive click action. Ideal for alarm circuits, intercoms, custom keyboard etc. Cat S-1200

\$3.25

10 or more \$2.95 each



SINGLE PCB PUSH BUTTON

Similar to S-1200 switches above, but one only. Single pole, single throw switch with momentary contacts. Ideal for use with our H-1247 mini case. Cat S-1201

Features:
Size: 12mm dia x 15mm (inc pins)
Pins on 5mm square
Panel hole clearance 8mm square

85¢

10 or more 75¢ each



Ultramini Push Button

PCB Mounting (vertical) push button switch with changeover contacts. Intended for reset button, etc. Size 9mm x 5mm x 22mm (inc legs & p/button). 120V AC 1A. Cat S-1255

\$2.95

10 or more \$2.65 each

PCB MOUNTING PUSH BUTTON

Right angle leads for mounting on horizontal pcb's. Push button alternate switching (push on, push off). Cat S-1253

Features:
250V AC 3A
Body size 12 x 7 x 17mm
Lead spacing 4mm
Front panel hole size 6.5mm

\$2.95

10 or more \$2.65 each



SPST LAMPSWITCH

Has many, many uses but is ideally suited to replacement of desk light switches. 240V AC 2A. Cat S-1205

\$1.95

10 or more \$1.75 each



DPDT LAMPSWITCH

Double Pole version of S-1205. Rated at 2A per pole, only slightly larger than single pole version. Suits same hole (11mm), body size just 23 x 15 x 13mm. 240V AC 2A/pole. Cat S-1210

\$2.50

10 or more \$2.25 each



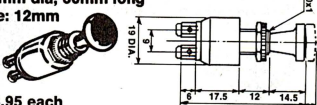
Dashboard Switch

Pull on, push off single pole switch as found in many older vehicles (lights, wipers, etc.). Also ideal for truck use as it is rated at 24V (10A). Positive screw-in connections. Cat S-1190

Body Size: 20mm dia, 30mm long
Mounting Hole: 12mm

\$4.50

10 or more \$3.95 each



Ultra Ultra Mini Vertical P/Button

SPST momentary action push button designed for vertical PCB mounting, also suitable for through-panel mount. S-1101

120V AC, 0.5A
Body Size: 5mm diam, 13mm long
Mounting Hole: 5mm

\$1.95

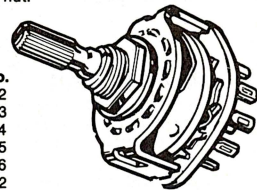
10 or more \$1.75 each



ROTARY SWITCHES

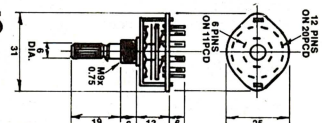
DSE rotary switches are precision made to our exacting specifications. They feature easy-to-solder lugs (which are ideal for pcb mounting because of their small size), and have up to 12 positions or 6 poles on one switch plate. The switch shaft is the now standard metric (fluted) type which accepts any of our range of 6mm knobs (imperial knobs can be used with a small piece of shim brass or copper). The contacts are make before break (less clicking and popping!) and each switch comes with a matching washer and nut.

Poles	Positions	Cat No.
6	2	S-6302
4	3	S-6303
3	4	S-6304
2	5	S-6305
2	6	S-6306
1	12	S-6312



\$2.25

10 or more \$1.95 each



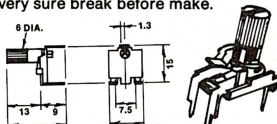
Body size: 30 x 25mm
Shaft length: 15mm

SPDT PCB MOUNT "PRESET"

Vertically mounting on pcb for preset applications. Insulated shaft makes it suitable for reasonably high voltage applications; very sure break before make. Cat S-1950

15¢

10 or more 10¢ each

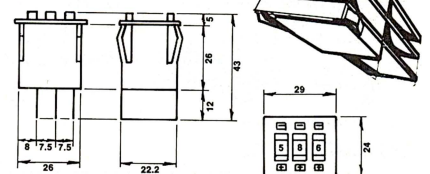


3-WAY BCD PUSH BUTTON

3 ganged push button switches with BCD coded outputs: ideal for use in computer circuits, with PLL's, etc. Decimal reading of BCD setting. As used in 2m transceiver kit. Cat S-2065

\$15.95

10 or more \$14.65 each



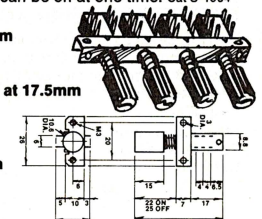
4-WAY SWITCH PACK

This switch is ideal for audio switching in kit type amplifiers or similar applications. Each individual switch section is DPDT and is mechanically interlocked so that only one press button can be on at one time. Cat S-1904

Features:
Mounting centre: 75mm
Clearance: 22mm
Push button size: 11mm centres spaced at 17.5mm

\$5.25

10 or more \$4.75 each



Single DPDT

Same high quality as the above switch bank, same features and functions. Just one of the above switches. Cat S-1906

\$2.25

10 or more \$1.95 each

SWITCHES

SLIDE SWITCHES

SUB MINIATURE DPDT

Countless applications — amazing low price!

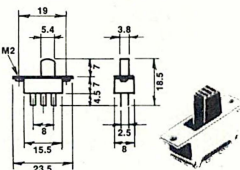
Sub-miniature type suitable for many types of projects, etc. So low in price it can be used for experimental projects, without regard to cost! Actuator is in black plastic. Cat S-2010

Features:

Mounting: 19mm centre
Clearance: 12mm
Body Size: 8mm x 23mm

50¢

10 or more 45¢ each

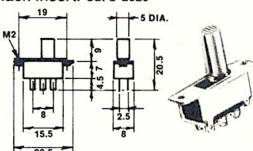


SUB MINIATURE DPDT

Same as the S-2010 but features an attractive spun aluminum actuator with black insert. Cat S-2020

50¢

10 or more 45¢ each



MINIATURE DPDT

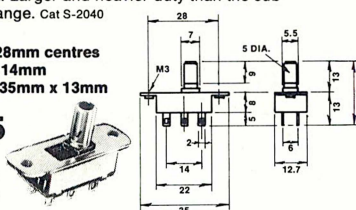
This miniature switch has a spun aluminium actuator with black insert. Larger and heavier duty than the sub-miniature range. Cat S-2040

Features:

Mounting: 28mm centres
Clearance: 14mm
Body Size: 35mm x 13mm

\$1.25

10 or more \$1.25 each



MINIATURE DP3T

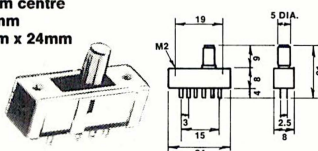
A versatile switch ideally suited to audio applications and for instruments. Cat S-2030

Features:

Mounting: 19mm centre
Clearance: 13mm
Body Size: 8mm x 24mm

\$1.25

10 or more \$1.00 each



MINIATURE DP6T

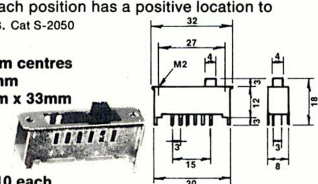
A printed circuit board mounting switch with a massive six positions. Each position has a positive location to avoid problems. Cat S-2050

Features:

Mounting: 27mm centres
Clearance: 18mm
Body Size: 8mm x 33mm

\$1.25

10 or more \$1.10 each



MINIATURE SP4T

As above, but with four positions. Ideal for input selection on printed circuit boards. Cat S-2060

Features:

Mounting: 19mm centres
Clearance: 12mm
Body Size: 8mm x 25mm

\$1.00

10 or more 90¢ each



4PDT TOGGLE LEVER ACTION

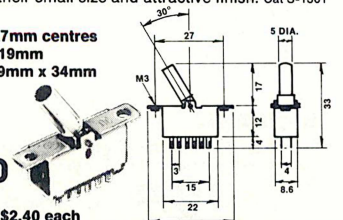
This switch gives the smooth action of a slide switch but is actuated by an attractive spun aluminium toggle with coloured insert. Great for amplifier changeover switches because of their small size and attractive finish. Cat S-1301

Features:

Mounting: 27mm centres
Clearance: 19mm
Body Size: 9mm x 34mm

\$2.50

10 or more \$2.40 each

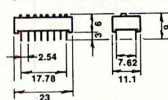
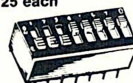


8 WAY PCB DIL SWITCH

8 SPST rocker switches mounted in a DIL package. Designed for PCB mounting and may be placed in blocks or rows without wasting space. Use for pre-programming, changing circuit constants and many more uses. Cat S-1608

\$2.50

10 or more \$2.25 each

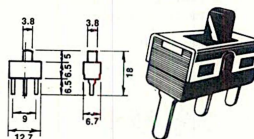


SPDT SLIDE

Designed for vertical mounting direct on pcb. Ideal for circuits which require occasional changing of operating parameters. 5mm between pins. Body 13 x 6.75mm. 6A @ 28V DC. Cat S-1010

\$2.95

10 or more \$2.65 each

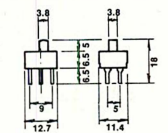


DPDT SLIDE

As above, but capable of switching two individual circuits at the same time. Also has 5mm between pins — in both directions. Has mountings at 18mm, body 13 x 11.5mm. Cat S-1015

\$2.25

10 or more \$2.00 each

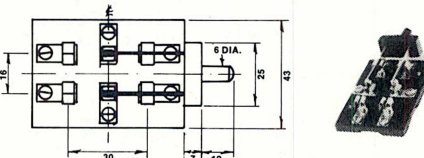
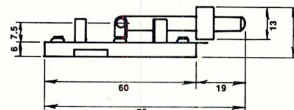


DPDT "KNIFE" SWITCH

The old "aerial & earth" switches of Yore. Used today for changeover switches on TV antennas, etc., or any general purpose (low voltage!) switching job. Cat S-1930

\$3.95

10 or more \$3.55



ROCKER SWITCHES

ILLUMINATED DPDT

Positive action, handsome black body, bright red illuminating rocker switches, 10amp, 240V. The terminating lugs on this switch will accept standard Utilux spade clips. Mounting is push in snap lock.

Features:

240V AC 10A
Body Size: 23mm x 30.5mm
Clearance: 30mm
Hole cut out size: 22mm x 27mm

240V NEON

Cat S-1506

\$3.95

10 or more \$3.55 each



12V VERSION

As above, but 12V globe. Cat S-1507

\$3.95

10 or more \$3.55 each

ILLUMINATED SPDT

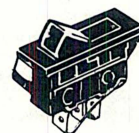
Attractive rectangular shape black switch with red illuminating rocker (240V neon). Terminal lugs accept Utilux spade quick connectors. Mounting is "snap lock". 240V neon. Cat S-1503

Features:

240V AC 10A
Body Size: 14mm x 40mm
Clearance: 29.5mm
Hole cut out size: 12.5mm x 37.5mm

\$4.50

10 or more \$3.95 each



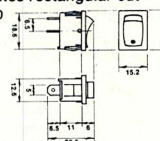
SPST MINI ROCKER

Intended mainly for vehicle applications — has quick connect lugs for easy connection. Takes rectangular cut-out, 29 x 13mm. Push-to-fit. Cat S-1390

12V DC, 2A

\$1.75

10 or more \$1.55 each

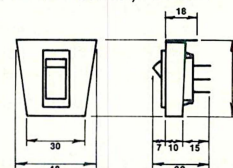


SPST ILLUMINATED WITH BRACKET

Also for car use. Ideal for controlling driving lamp relays, etc: lamp inside switch lights when switch is on. (12V lamp). Complete with mounting bracket (can be removed for panel mounting in a 12 x 27mm cut-out). Cat S-1500

\$2.50

10 or more \$2.25 each



Dress Nuts

Pack of 5.5mm dress nuts for standard miniature toggle switches. Makes the panel look really snazzy! Cat H-1912

Weight: 10g

\$1.15



Weatherproof Hoods

Again designed for standard miniature toggle switches, these screw onto the switch to prevent moisture ingress. Ideal for switches in marine applications. (Note: only protect toggle, not rear of switch). Pack of 8. Cat H-1914

Weight: 15

55¢



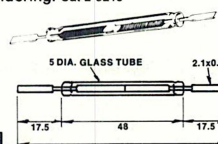
ALARM SWITCHES

LARGE BARE REED SWITCH

Bare switch measures 40 x 5mm diameter, solid connection for ease of soldering. Cat L-5215

\$2.95

10 or more \$2.65 each



MINI REED SWITCH

Great where space is a problem. Wire connections, great for camouflaging in wood-work, etc. 25mm long Cat S-1946

\$1.25

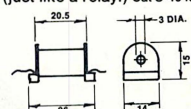
10 or more \$1.10 each

ACTIVATING COIL

Matches perfectly with the mini reed switch above. 430 ohm coil operates from 6 to 15V DC, gives you perfect isolation between two circuits (just like a relay!) Cat S-1948

95¢

10 or more 85¢ each



BARE MAGNETS

Tiny (26 x 8 x 8mm) magnets which operates either reed switch from approx. 10mm away. Huge range of applications. Cat L-5214

\$2.15

10 or more \$1.95 each

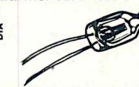
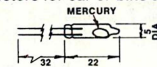


MERCURY "TILT" SWITCH SWITCH MOUNT SPDT

This is essentially a movement detecting switch. It is operated by changing the horizontal plane. A "ball" of mercury runs from one end of the elongated tube to the other as the position is changed. One end has a set of contacts that "make" with the mercury. It is basically a low current device but is suitable for such uses as movement detectors for car or bike alarms. Cat S-1935

\$3.95

10 or more \$3.55 each



3 Pin Plug **\$1.95**

The standard Australian 3-pin AC plug — it has locked collar to hold cable tight and push fit cover to main body. Cat P-5400

3 Pin Piggy Back Plug **\$3.95**

Standard 3-pin plug with 3 pin socket as well — doubles up one power point. Cat P-5405

3 Pin Plug Side Entry **\$2.75**

Standard 3 pin AC plug with cable entry on the side — ideal for using with awkward equipment. Cat P-5402

Suppressor Plug **\$8.95**

Standard 3 pin AC plug, with capacitors fitted to reduce unwanted pops and crackles from audio equipment. Cat P-5425

Line Socket **\$4.15**

Ideal for making up extension cords — standard 3 pin AC socket. Cat P-5410

Surface Socket **\$3.95**

Standard 3 pin AC socket that can be screwed to boards or walls — ideal for workshop use. Cat P-5415

Double Power Point **\$12.95**

Replace old single outlets with a double: much more convenient. Cat P-5560

Rotary Fan Blower

Getting a bit hot under the collar? Use one of these superb rotary fans: FANTastic for any device that needs forced air cooling. And they can be mounted to suck or blow.

Standard size: 1202mm square x 40mm deep. Cat Y-8500 **\$29.95**
Mini size: 80 x 80 x 25mm. Cat Y-8505 **\$19.95**
Shipping weight: 280g Shipping size: 87 x 85 x 35mm

3 Pin IEC Line Socket **\$3.95**

As used in huge range of computer, amateur, entertainment equipment. Female line socket, standard IEC. Cat P-5580

3 Pin IEC Chassis Plug **\$3.50**

Male Chassis socket, as used with above plug. 3 pin vertical IEC pattern. Cat P-5585

Architrave Switch **\$4.95**

Standard architrave switch — can be used to replace old, worn out units in your home. Positive action switching. Cat P-5570

Line Switch **\$6.95**

High impact plastic moulded switch for insertion in any cord for remote on/off. Ideal for putting on/off switch in a floor standing lamp. 10 rating. Cat P-5515

Wall Board Clip **\$1.50**

Can be mounted from the front. Mount power outlets, switch plates, on any cavity wall (other than brick) without the need for a mounting block. Cat P-5530

Light Socket **\$2.95**

Light socket for payonet mount lamps. Ideal replacement for light fittings. Comes in white plastic. Cat P-5510

Spotlight Holder **\$7.95**

Edison Screw holder to suit PAR38 and other ES bulbs. Can be adjusted over 30° for exact positioning. (Suits coloured bulbs). Cat P-5620

See-through 3 Pin Plug **\$2.00**

Same as 3 pin plug at left, but see through so you can see faulty or broken wiring, etc. Cat P-5401

See-through Line Socket **\$4.30**

As above, but extension cord end. See through: for safety's sake. Cat P-5411

4-Way Power Board **\$14.95**

Now one power point becomes four power points! Cat P-5613

Fluoro Starters **\$1.50**

Fluoro lights go blink, blink? Could be the starter: plug in one of these! Pack of two starters. Keep some handy just in case. Cat P-5625

Blank Plate **\$2.50**

Same size as power point, but blank: ideal for gap-filling when you move points, switches, etc. Cat P-5535

Standard Mounting Box **\$2.75**

Mount power points, plates, etc on any surface including brick. Cat P-5531

Extension Cords

3 core cable already fitted with plug and socket. 7.5A rating.
5m: Cat P-5595 **\$6.95** 10m: Cat P-5600 **\$10.95**

Cordlock

Stops plugs and sockets pulling apart — dangerous and inconvenient. Added safety for your extension cords. Cat P-5412 **\$4.95**

Power Point Safety Tester **\$7.95**

Check newly installed power points, old homes, etc. Just plug in and light pattern reveals any faults. Cat P-5300

Double Adaptor **\$3.75**

Standard 3 pin AC plug into 2 AC sockets enabling you to use 2 appliances on one outlet. Cat P-5440

Child-Proof Protector **\$3.50**

AC sockets are normally placed in a position whereby young children have access. Stop their prying fingers by placing these plastic safety plugs into the outlet when not in use. Cat P-5420

International Traveller Adaptors

Having trouble with power points overseas? Here's the answer! A neat little adaptor that converts our 3-pin plug to virtually anything used in the world. One piece (so you won't lose bits). Use active/neutral pins only: does not connect earth. Cat P-5652 **\$24.95**

Aussie Adaptor

Just the thing for overseas visitors! Adapts Australian mains socket to accommodate European, American, Japanese and many other plug configurations. Cat P-5655

Now fits UK 3 pin system **\$8.50**

Australian to Overseas Adaptors

Low-cost adaptors for specific areas. Even if you're going everywhere, you'll still save by buying the lot! These adaptors DO connect the earth pin — for safety.

All one price: **\$7.95 ea**

Aussie to UK

Also Ireland, Singapore, Hong Kong, Parts of Middle East, Africa and Asia. Cat P-5658

Aussie to Europe

Also Noumea, Tahiti, parts of Middle East, Asia & Sth America. Cat P-5658

Aussie to U.S.A.

Also Canada, U.S. possessions. Cat P-5659

Mains Circuit Breakers:

See Fuses overleaf (page 56)

Stop Spikes! Protect Your Electronics With Clean Power **\$59.95**

It's three devices in one! Protects your sensitive electronic equipment from dangerous spikes and surges, removes tones and other noise from power lines, and provides a clean, safe power supply for your computer systems, audio gear, etc. — PLK is a must for your home!

The unit comes with two line and mains sockets, 6 outlets, 2 safety shutters, illuminated master switch, and a reset button. At home, in the office, or in the car, this has to be the cheapest insurance you can get for your electronic equipment. Cat P-5618

Spike Handling —

Maximum Clamping Voltage: 700V @ 50A
Spike Dissipation Energy: 80J @ 2ms
Withstanding Surge Current: 4500A (8 x 20us, 1 time)
Clamping Response Time: <10-9ns

Noise Rejection —

Frequency: 1kHz to 100MHz
Attenuation: 20 to 40dB (variable ratio)

24 Hour Program Timer

Fantastic for security lighting, lamps, radios, electric blankets, pool filters... anything! It's so simple — just plug it into the mains socket, set the time and forget it.

Quality Australian made Click Timer allows you to set up to 24 on/off cycles (pins supplied for 3) in any day. Features auto/manual override switch and a modular design that doesn't intrude on adjacent power points. Cat P-5701 **\$42.50**

The Button: Cheap Insurance!

It simply plugs into any power point — and protects everything on that circuit (ie on other power points) from damage caused by power line spikes. Computers, videos, hi-fi, TV's industrial and domestic machines... all can be protected by The Button. Cat P-5310

- Protects all three lines (active/neutral, active/earth and neutral/earth).
- Better than 10ns response time
- 150 Joule rating (consumes no power except when a surge/spike is present).
- If you value your equipment, you'll value The Button even more — especially at our great value price! **\$39.95**

FUSES / RELAYS

Fuses

Wide range of fuses in both popular styles: M-205 mini (approx. 20 x 5mm) and the popular 3AG (approx. 32 x 6mm). Remember, the lower the current rating of the fuse you use, the greater the protection afforded. All fuses 'fast blow' type for greatest protection.

3AG TYPE		M-205 TYPE	
100mA	Cat S-4449	250mA	Cat S-4412
150mA	Cat S-4451	500mA	Cat S-4415
250mA	Cat S-4453	1A	Cat S-4421
350mA	Cat S-4455	2A	Cat S-4423
500mA	Cat S-4457	5A	Cat S-4425
1A	Cat S-4461		
1.5A	Cat S-4465		
2A	Cat S-4467		
3A	Cat S-4469		
5A	Cat S-4471		
7.5A	Cat S-4473		
10A	Cat S-4475		
15A	Cat S-4477		
20A	Cat S-4479		
25A	Cat S-4481		
30A	Cat S-4485		
35A	Cat S-4487		

25¢
10 up 20¢

Thermal Fuses

Handle 10A at 250V. Two type to choose from: 96°C operating Cat S-4490
139°C operating Cat S-4491

\$1.45

10 or more \$1.30

Slo Blo Fuses

M-205 TYPE		3AG TYPE	
250mA	Cat S-4300	250mA	Cat S-4350
310mA	Cat S-4305	500mA	Cat S-4355
500mA	Cat S-4310	1 AMP	Cat S-4360
1 AMP	Cat S-4315	2 AMP	Cat S-4365
2 AMP	Cat S-4320	5 AMP	Cat S-4370

95¢

10 up 85¢

Auto Blade Fuses

5 AMP	Cat S-4505	20 AMP	Cat S-4520
7.5 AMP	Cat S-4507	25 AMP	Cat S-4525
10 AMP	Cat S-4510	30 AMP	Cat S-4530
15 AMP	Cat S-4515		

50¢
10 up 45¢

Handy Fuse Wire Pack

Great for keeping a card of this in the fuse box — just in case! Card of 8, 16, 20 and 30A fuse wire. For light circuits, right up to the electric stoves! Cat W-3180

80¢
10 up 75¢

Fuse Holders

Chassis or PCB

Easy to mount fuseholders in both popular sizes to suit 3AG or M205 fuses. Suit 3AG: Cat S-4257. Suit M-205: Cat S-4258

60¢

10 or more 55¢



Bayonet holders

Chassis or panel mounting fuse holder, accepts standard 3AG fuse. 13mm mounting hole required. Suitable for low voltage. Cat S-4206

\$1.25

10 up \$1.15



In-line Holders (3AG)

Protection for car radios, stereo, transceivers, etc. All plastic casing, takes standard 3AG fuse with spring loaded contacts for positive connection. Complete with 600mm lead at no extra charge. Suitable for low voltage. Cat S-4277

\$1

10 up 90¢



3AG Fuse Clips (Pack of 8)

These fuse clips are ideal for mounting on PC boards providing flexibility and extremely good value. Cat H-1700

\$1.45
pkt of 8



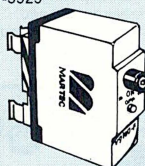
Throw The Fuse Wire Away!
Replace them with...

Circuit Breakers

Sure beats scratching round in the dark for fuse wire that usually doesn't exist. Fits Federal type fuse holders. Just slip them in place of your old fuse. If circuit is tripped, getting the power back on is as easy as pushing a button!

8 Amp Rating	Cat P-5908
10 Amp Rating	Cat P-5910
15 Amp Rating	Cat P-5915
16 Amp Rating	Cat P-5920
20 Amp Rating	Cat P-5925
30 Amp Rating	Cat P-5929

ONLY \$12.95 ea



Relays

Cradle Relays

Our standard cradle relay range is perfect for hobbyist projects, industrial replacement, etc. They suit the sockets below if PCB mounting is required. Insulation effective to 500V at 50Hz, with contacts rated at 30W (1A or 100V). Operation time typically 6-10ms, relative time typically 3-4ms.

Shipping weight: 7g

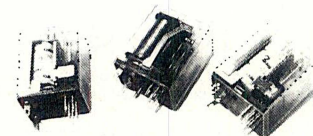
Shipping size: 35 x 30 x 19mm

S-7012.....\$12.95

10 up \$11.95

S-7020.....\$14.95

10 up \$13.95



Voltage
Contact type
Coil voltage — Min. Nom. Max.
Coil Resistance
Contact assembly

S-7012	12 volt DPDT	8V	12V	17V	325 ohms	2 C/O
S-7020	12 volt 4PDT	8V	12V	17V	185 ohms	4 C/O

Cradle Relay Socket

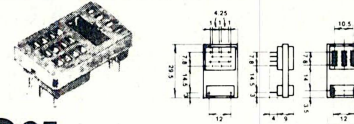
Silver plated socket to suit Cradle relays. 4 C.O. type Cat P4734

Shipping weight: 2g

Shipping size: 29 x 20 x 13mm

\$3.95

10 up \$3.50



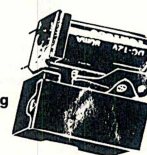
PCB Mounting Relays

PCB Mounting Coax Relay

Mini pcb mounting relay with fully enclosed contacts. Coil rated at 12 volts, 80mA. Handles up to 1000MHz — so is ideal for all HF, VHF and UHF switching applications. Size overall 35mm square x 15mm high. Make up your antenna switching unit and save \$\$\$ on coax cable runs! Cat S-7402

Shipping weight: 18g
Shipping size: 36 x 33 x 11mm

Cat S-7402.....\$39.85
10 up \$35.95



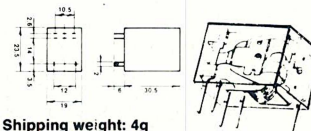
Ultra Miniature

Low cost mini relay for projects without a lot of spare room! Fits a standard 2.54mm matrix (eg Vero or DIL) boards and the 5V version interfaces (via suitable buffer) to TTL. Contact rating is 100V at 0.5A (res). SPST.

Contact current (max):	S-7105	S-7112
Contact voltage (max):	1A	1A
Nominal coil voltage:	100V AC	100V AC
Coil resistance:	5V	12V
	56 ohm	320 ohm

Shipping weight: 4g
Shipping size: 15 x 14 x 11mm
Shipping weight: 6g
Shipping size: 14 x 12 x 7mm

Cat S-7105.....\$5.95
Cat S-7112.....10 up \$5.35



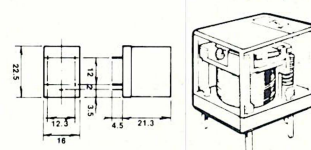
Miniature

Small in size but very handy contact rating! The silver plated SPDT contacts will handle up to a massive 2 amps (at 24V DC or 100V AC). Nominally 8 to 12V operating, but will work ok up to 15 volts. Cat S-7120

Contact current (max): 2A
Contact voltage (nom): 100V
Nominal coil voltage: 8-12V
Coil resistance: 225 ohm

Shipping weight: 4g
Shipping size: 15 x 14 x 11mm
Shipping weight: 6g
Shipping size: 14 x 12 x 7mm

Cat S-7105.....\$5.95
Cat S-7112.....10 up \$5.35



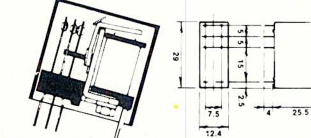
Standard

Our most popular relay. Ideal for direct mounting on PCB's. Housed in plastic dustproof case: as used in a large number of EA and ETI projects.

Contact current (max):	SPDT S-7125	DPDT S-7130
Contact voltage (max):	5A	5A
Nominal coil voltage:	240V	240V
Coil resistance:	12V	12V
	180 ohm	200 ohm

Shipping weight: 17g
Shipping size: 30 x 30 x 12mm

Cat S-7125.....\$8.50
Cat S-7130.....10 up \$8.25



12V Automotive Relays

Horn Relay

Heavy duty relay intended for use in 12 volt vehicle systems. Very high contact rating is ideal for horns, ignition, disables burglar alarms, etc. Negative switching only. SPST contact. Cat S-7302

Contact current (max): 20A
Contact voltage (nom): 12V
Nominal coil voltage: 12V

Shipping weight: 8g
Shipping size: 35 x 27 x 20mm

Cat S-7302.....\$3.95
10 up \$3.55



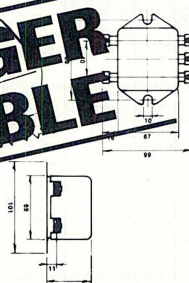
Double Pole Lamp Relay

Very heavy duty relay, with double pole contacts each rated at a massive 60 amps. Ideal for such applications as driving lights — or wire both contacts in parallel for huge 60 amps single pole! Cat S-7304

Contact current (max): 2 x 30A
Contact voltage (nom): 12V
Nominal coil voltage: 12V

Shipping weight: 288g
Shipping size: 10.5 x 10.5 x 54mm

Cat S-7304.....\$24.95
10 up \$22.45



High Rating Power Relay

A small, but high capacity relay ideal for power switching with a massive contact rating of 10A. Great for switching 240V projects from transistor or IC control. Cat S-7200

Contact current (max): 10A
Contact voltage (nom): 240V
Nominal coil voltage: 12V
Coil resistance: 160 ohm

Shipping weight: 8g
Shipping size: 40 x 27 x 20mm

Cat S-7200.....\$9.95
10 up \$9.50



Pot Core Assemblies



Phillips P36 assembly consisting of 2 cup cores. Replaces FX2242 36mm core diameter. Cat L-1436 **\$7.95**
Shipping Weight: 29g **10 up \$7.20 ea**
 Former to suit cores. Cat L-1437 **70¢ ea**
Shipping Weight: 8g **10 up 60¢ ea**
Shipping size: 27 × 27 × 14mm

455kHz Ceramic Filter

Murata (CFW455E) the modern replacement of the IF transformer. Two resonators are coupled by an external capacitance to give maximum selectivity with a flat response. Typical selectivity 20dB min at ±10kHz with 3dB bandwidth of ±4.5kHz. Cat L-1610
Shipping Weight: 0.4g **\$6.95**
Shipping size: 0.5 × 4 × 4mm **10 up \$6.25**

Telescopic Antenna

Deluxe antenna, ideal replacement for radios or use in projects. Multi section, tight fitting, chrome plated. Cat L-4902
Shipping Weight: 50g **\$5.80**
Shipping size: 160 × 0.5mm **10 up \$5.25**

Aerial Rod with Coil

Complete Ferrite rod with pre-wound standard b/c coil. Suits 140-160pF miniature tuning gangs. Ideal for replacements in transistor radios. Cat L-0520 **\$1.75**
10 up \$1.60 ea



Coil Formers and Accessories

5mm former, subminiature (4mm core)). Code 822/1. Cat L-1010 **70¢ ea**
Shipping weight: 5g **10 up 60¢ ea**
Shipping size: 18 × 5 × 5mm



6 pin base. Cat L-1015 **70¢ ea**
Shipping weight: 6g **10 up 60¢ ea**
Shipping size: 13 × 13 × 7mm



Can to suit above 12.7 × 12.7 × 19mm. Code 7100. **50¢ ea**
 Cat L-1020 **10 up 45¢ ea**
Shipping weight: 9g
Shipping size: 18 × 13 × 13mm



Slug Tuned IF/OSC Coil Pack

Ideal for experimenters and service technicians. Set comprises 1st, 2nd & 3rd 455kHz standard miniature IF transformers and standard b/c oscillator coil. Cat L-0260



Shipping weight: 10g **\$2.50**
Shipping size: 70 × 60 × 10mm **10 up \$2.25**

Aerial Rods

F14 ferrite material for winding aerial and other coils onto. Operating range 0.1 to 2MHz. 200mm length, 9.5mm diam. Cat L-1401
Shipping weight: 67g **\$3.50**
Shipping size: 200 × 10mm **10 up \$3.15**



DC Smoothing Choke

Intended for car hi fi, communications equipment, etc. where ignition, alternator or other noise gets in through the power line. Use external to device either on its own (in series with positive supply) or in conjunction with capacitor for an effective L-C filter. Cat L-1900

Shipping weight: 38g
Shipping size: 20 × 15 × 11mm

\$3.95



RF Chokes

1uH	L-1759	82uH	L-1793
1.5uH	L-1761	100uH	L-1795
2.2uH	L-1763	150uH	L-1799
3.3uH	L-1765	220uH	L-1803
4.7uH	L-1767	330uH	L-1807
6.0uH	L-1769	470uH	L-1811
8.2uH	L-1771	560uH	L-1813
10uH	L-1773	820uH	L-1817
15uH	L-1775	1mH	L-1820
22uH	L-1779	1.5mH	L-1822
33uH	L-1783	2.5mH	L-1824
47uH	L-1787	5mH	L-1826
68uH	L-1791	10mH	L-1830

All \$1.15 ea 10 up 95¢ ea

Balun Formers

Suitable for VHF (F14) and VHF/UHF (F29) TV Baluns, wideband & pulse transformers, interference suppression, etc. F29 ferrite has 0.5dB loss 40 - 220MHz increasing to 1dB at 800MHz. Packs of two in two sizes:

1050/1/F14 ferrites;

13.5 × 13.2 × 7.4mm Cat L-1340

1050/2/F29 ferrites;

6.5 × 13.2 × 7.4mm Cat L-1352

Pack of 2: \$1.49 each

10 packs or more \$1.35 each



Ferrite Cores

Pack of four F16 ferrite screw cores, 0.5 to 15MHz. 10mm long × 4mm diam, 0.5mm thread. Cat L-1302.

Pack of four F29 ferrite screw cores, 10 to 220MHz. 10mm long × 4mm diam, 0.5mm thread. Cat L-1307



\$1.35 pack 4 **10 packs or more \$1.20 ea**

RF Balun Kit

(and audio interference suppressor)

Contains a large, quality balun core (50.8mm dia.) with a quantity of heavy gauge wire, suitable for up to 1kW. Full instructions supplied. Can be used for a number of antenna types up to 30MHz. In most they will eliminate RF breakthrough from amateur and CB gear into audio amplifiers. If the speaker leads are wound through the core (as many turns as will fit) the core stops RF energy entering the amplifier in this way. Cat D-5350

Shipping Weight: 936g
Shipping Size: 190 × 110 × 14mm

\$18.95
10 up \$17.00



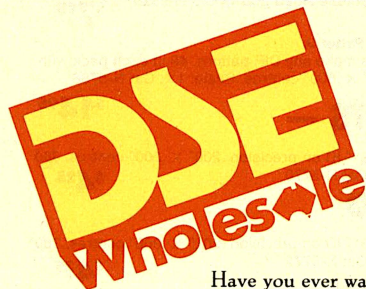
RF Toroid Kit

Contains two iron power cores, enamelled copper wire, application notes, inductance chart and a nomograph. Toroids are used to design power circuits, Di networks, RF transformers, networks, floating taps, pulse fil, baluns, mixers, tuners, antenna coils, RF traps. If no RF oscillation takes. The two cores provide a useful high Q spectral range of 100kHz to 60MHz. Cat L-1430

Shipping Weight: 101g
Shipping Size: 101 × 5mm

\$4.99

10 up \$4.50 ea



An opportunity to become part of Australia's most successful electronics retailer.

Have you ever wanted to run your own business but didn't know where to start? Are you a successful businessman wanting to get out of the rat race and be your own boss? Have you considered buying a franchise but couldn't see the value in the up front charges?

Dick Smith Electronics has the solution. For over ten years our Wholesale Division has supplied a selected authorized distributor network of independent retailers with our exclusive range of products. How could you miss with benefits like this!

1. The reputation and trademarks of Australia's most successful electronics retailer.
2. Prices that reflect the buying power of a \$65 million a year company.
3. Management systems and policies that pass on to you the inside secrets of DSE's success.
4. Advertising subsidized by DSE for local TV, press, radio and catalogue distribution
5. An exclusive retail territory.
6. Access to Dick Smith Electronics comprehensive range of products.
7. A four tiered bulk pricing structure.

To find out more contact:

The Wholesale Manager
 Dick Smith Electronics
 P.O. Box 321,
 North Ryde NSW 2113
 Telephone: (02) 888 3200

DATAK

Photo-Etch PCB Kit ER-4

It's so simple! Our Photo-Etch kit contains all the chemicals necessary to create professional circuit boards. Use the kit to generate your own 1:1 artwork or use magazine art, then use the patented Pos-Neg process to make a photo negative, sensitize and expose a blank copper board, then develop and etch it. The magazine page is not destroyed in this process. No darkroom or camera is required. All necessary materials are included: steel 125 x 150mm print frame, Pos-Neg film, film processing pack, yellow filter, 117ml negative-acting etch resist, 483ml resist developer, blank copper circuit boards, dry concentrated etchant 1:1 resist patterns and tapes, and complete instructions. NOTE: You will need to obtain trays and exposure light. Cat N-5700

\$99.95



You've asked for them: here they are!

A great new range of PCB designing and making aids, along with dial and panel markings etc, from Datak: one of the USA's largest suppliers. Everything you need, from donuts and tapes right through to circuit repair materials.

Datamark and Jotdraft Dry Transfers

The easy and economical way to give that professional look to all your projects. Letters, numbers, marks or words — there's a pack to suit just about every application. Works on metal, wood, paint, plastic and paper.

TITLES

Audio, TV, Hi-Fi Titles

Five 3 1/4" x 5" sheets covering audio, broadcast, recording and stereo areas and one letter/number sheet. In black or white.

Cat N-5753 Black **BOTH**
Cat N-5754 White **\$8.95**

Amateur Radio & TV

Designed for marking all RF and communications equipment. Five 120 x 190mm sheets and one number/letter sheet in black or white.

Cat N-5755 Black **BOTH**
Cat N-5756 White **\$8.95**

Test & Industrial Equipment

A great selection for marking scopes, meters, analyzers, plotters and most other test equipment. Five sheets plus number/letter sheet. Available in black or white.

Cat N-5757 Black **BOTH**
Cat N-5758 White **\$8.95**



DIAL AND METER MARKINGS

Marks & Switch Patterns

Rotary switch patterns, arrows, lines, graduations and numbers. Three black and white assorted sheets. Cat N-5750

\$11.95

Meter Dial Patterns

Four sheets, 120 x 90mm with dialplate arcs and graduations let you design or modify meter scales from 25mm to 125mm in radius. Available in black. Cat N-5752

\$14.50

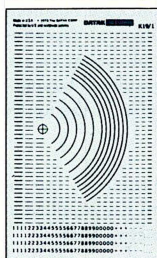
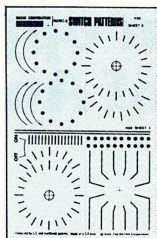
PATTERNS — Scale 1x

TO-18. 3 Pin PC pattern, 144 in set. Cat N-5760

TO-5. 3 Pin PC pattern, 84 in set. Cat N-5762

16 pin dual inline package PC patterns. 32 in set. Cat N-5764

16 pin DIP. Narrow pads in set of 32 patterns. Cat N-5765



Sampler Assortment

Contains one pattern sheet from 17 Jotdraft sets (including ones we don't stock!). A great starter pack. Cat N-5766

\$49.95

Targets and Registrations

Pack of 40 different pcb targets and crosshair registration marks for precision pattern alignment (especially suitable for multi layer or double sided pcb's). Cat N-5820

\$7.95

Universal Dip Patterns

These patterns make any DIP pattern. 48 in each pack with 40 leads. .100" x .600" centres. Scale: 1X. Cat N-5768

DONUTS —

\$14.95

.080" OD x .031" ID on precision .200" x .300" centres. 380 donuts in set. Cat N-5770

\$4.25

.100" OD x .031" ID on precision .200" x .300" centres. 380 donuts in set. Cat N-5772

\$4.25

.125" OD x .031" ID on precision .200" x .300" centres. 380 donuts in set. Cat N-5774

\$4.25

.150" OD x 0.31" ID on precision .200" x .300" centres. 380 donuts in set. Cat N-5776

\$4.25

PCB TAPES

Precision slit tapes to make PCB design and construction easy. This black crepe tape is highly flexible with a strong adhesive to prevent peeling or creeping on the curves. All tapes come in 6 ft lengths.

.031" N-5780
.040" N-5782
.062" N-5784
.080" N-5786
.093" N-5788
.125" N-5790

\$3.95 each!

Want to make larger PCBs?

If your work is larger than 125 x 150mm, you'll need the following accessories:

Contact Printing Frame ER-10

Large format (225 x 300mm) spring-loaded steel printing frame will accept 210 x 275mm artwork originals, photocopy film and sensitized printed circuit boards. Comes complete with glass, backboard, yellow Pos-Neg filter and instruction manual. Cat N-5710

\$35⁹⁵

Yellow Pos-Neg Filter ER-17

Needed for all Pos-Neg exposure work. Take care — this filter can be damaged by many industrial solvents and ER-8 developer. Keep free of dust and fingerprints. Cat N-5711

\$10⁹⁵

Negative Photo Resist ER-71

A liquid cinnamate resist in bottle with pump sprayer. The coated board is exposed to UV through a negative of the circuit pattern, then developed in Cat N-5905. Unexposed parts of the resist coat are dissolved while the exposed resist pattern stays to protect the copper when etched. One bottle contains 4000 sq mm. 117ml bottle. Cat N-5907

\$18⁹⁵

Negative Resist Developer ER-8

A solvent blend that will develop Cat N-5907 and other negative acting photo resist. Resist areas that are not hardened by UV light are dissolved away. Hardened areas are unaffected. Do not use with positive acting resists. 483ml. Cat N-5905

\$11⁹⁵

Ball Stylus/ Burnisher

DATAK dry transfers will transfer with an ordinary ball point pen and may be burnished with a thumbnail. Buy you'll do a better job and finish faster with a well-designed tool. This metal ball applicator will transfer characters from .2mm up to about 6mm. The 2mm round polished tip fits into tight corners on PC's and panels and prevents letter distortion if your use excessive force. The other end has a 9mm flat flexible burnisher. Cat N-5715

\$10⁹⁵

Positive/Negative Film Refills

This polyester base film is dimensionally stable and is capable of making a negative or a positive from either opaque or translucent artwork in one step. No intermediate film is required. It will accept retouching with photo opaque, pencil, india ink or dry transfers.

ER-9 2 sheets 8 12" x 11". **\$18⁸⁵**

Cat N-5709
ER-5 6 sheets 5" x 6" **\$18⁸⁵**
Cat N-5705

Now, you can modify or repair PCBs with Circuit Fix CF-1



The complete kit contains the spring-loaded clamp and guide, collet knife and blade. 154 assorted copper donuts, 32 square inches of copper foil and an instruction booklet.

Cat N-5900

\$62⁹⁵

Solder won't stick?

Tinnit Electroless Bright Tin Plate ER-18

Tinnit is designed to plate bare copper circuit boards to enhance solderability. It has also been used to plate edge card connector fingers on prototypes when a low, stable contact resistance is needed, but gold is not available or desired. One pint of Tinnit will plate up to 1500 sq mm of copper with approximately .001mm of bright tin. Plating takes 10 minutes in a fresh solution. Adhesion and solderability are excellent. No electricity is required. Tinnit has been successfully used to plate brass, bronze, iron and some carbon steels, the material is supplied as a dry mixture with an indefinite shelf life. When mixed with water, the solution has a life of approximately two months. You need add no acid for other materials to this solution. Tinnit contains all plating chemicals plus surfactants and cleaners to insure a perfect plate. 1 pint. Cat N-5730

\$12⁹⁵

High Resolution Positive Resist



Now one off boards and prototypes can be made approaching factory standards — at a fraction of the price. Spray resist is simple to use, exposes to any UV source (even the Sun). Perfect for use with 1:1 tapes and pads. Develops in caustic soda solution or developer below. 75g spray can Cat N-1001

\$8⁵⁰

Buy in bulk and save!

Same RP50 Positive Photo Resist in bulk 200g pack. If you're making a lot of boards, buy the big size — it's cheaper! Cat N-1000

\$15⁹⁵

Developer to suit

Safer and simpler than mixing up caustic soda solutions: just develop pattern in this, dry and etch. 250ml bottle of 4:1 concentrate — goes a long, long way. Cat N-1002

\$9⁷⁵



FAMOUS 'ELECTROLUBE' BRAND

Blank Printed Circuit Boards

Pre-cut high quality PC board with permanently bonded copper on one side — available in bakelite or heavy duty fibreglass.

Bakelite:	Cat No.	Each
150 x 74mm	H-5500	\$2.05
150 x 150mm	H-5505	\$3.65
300 x 300mm	H-5510	\$11.55

Fibreglass:	Cat No.	Each
150 x 74mm	H-5540	\$2.65
150 x 150mm	H-5545	\$4.95
300 x 300mm	H-5550	\$10.45

Clear Acrylic Sheet

Ideal for using over panels, etc — makes your project look really professional. Or use for inspection panels, protection devices, etc. 3mm thick, size is a very useful 150mm long x 50mm wide. Cat H-5450

\$1⁴⁵

Aluminium Sheet

Blank aluminium sheet ideal for making up front panels, folding into small boxes, or general hobbyist work. 18 gauge, 305 x 305mm. Cat H-2560

\$4⁶⁰

PCB Marking Kit

For those quickie boards (or where no photographic facilities are available) just draw this resist directly onto the pcb surface. Two different coloured pens plus eraser in a handy plastic wallet. Also ideal for repairing photoresist prior to etching. Cat N-5175

Shipping weight: 36.3g
Wallet size: 150 x 40 x 10mm



\$14⁹⁵

Ferric Chloride Etchant

Now supplied in a great new no-spill 500ml bottle of working solution (Ferric Chloride). No more fiddling around with beads and hot water. Cat N-5652

\$6⁹⁵

Note: due to corrosive nature, transport restrictions may apply.



Etching Kit

Everything you need for instant pcb's. Contains pc resist pen, etchant, resist solvent, flux, cleaning material and a sample of pcb. (See shipping warning on N-5652 etchant). Cat N-5650

Shipping weight: 951g
Carton size: 280 x 120 x 80mm

\$22⁵⁰



PC Pins

These pins push through 2.54mm pitch matrix board or Veroboard to form solder terminals on both sides of the board. Cat H-5590

Pkt 50 pins

\$2⁶⁰

PC Pin Connectors

Fits the H-5590 board pins. Has many uses. Cat H-5592

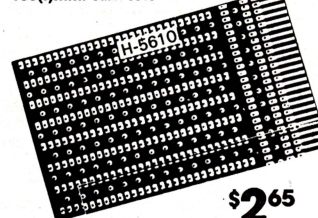
Pkt 25

\$2²⁵



Plug-in IC Board

Fantastic plug-in printed circuit board, 2.54mm pin spacing to accept directly up to 14 x 14 pin or 16 pin IC's or up to 20 'Mini-Dip' IC's. Lands are silver plated and a 24 way 2.54mm plug is etched into one end of the board so that it can be used with a 24 way edge connector. An excellent high quality board for the hobbyist and engineer. 2.54mm spacing x 60(w) x 100(l)mm. Cat H-5610



\$2⁶⁵

Matrix Board

Tough phenolic board with punched holes. Ideal for prototypes, bread boards, science or hobby projects. 2.54mm spacing x 75mm x 76mm. Cat H-5310

\$2³⁰

Printed Mounting Strip



A handy 47 way mounting strip for resistors, capacitors and other components. Packs them in neatly. Terminals are numbered for easy circuit identification. Cat H-6610

\$2²⁵

Printed Stripboards

DSE specifications... plated strips alpha- numeric grid

The most versatile board of the lot! Etched copper strips are predrilled and plated ready for solder. The alpha numeric grid facilitates positive pin identification.

2.54mm spacing 76mm x 153mm.	2.54mm spacing 76mm x 76mm
Cat H-5612 \$4¹⁵	Cat H-5614 \$2²⁵

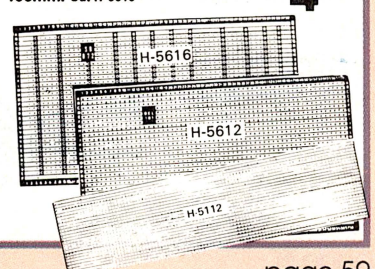
Versa Strip Board

A quality plated copper strip board similar to the English Veroboard. Continuous predrilled stripping on a high grade insulator. Packed in plastic sheath to assure you an untarnished, easy-to-solder surface. 2.54mm spacing x 95mm x 304mm. Cat H-5112

\$6⁸⁰

As H-5612 board, but with pre-cut short traces making it ideal for multi IC work. Plated strips. Packed in a plastic sheath for protection. 2.54mm spacing x 76mm x 153mm. Cat H-5616

\$4⁹⁵



Hook-up Wire

Flexible Light Cable

PVC insulated wire that is ideal for the hobbyist. Ideal for home brew projects, etc. 12 individual colours available — save confusion. 10 x 0.12

Red W-2220 Green W-2225 Cream W-2230
Black W-2221 D Blue W-2226 White W-2231
Brown W-2222 Purple W-2227
Orange W-2223 Lt Blue W-2228
Yellow W-2224 Grey W-2229

15¢ per metre
100m or more 8¢ per metre

Medium Duty

Slightly thicker than the above wires, fully tinned and insulated. 10 x 0.25 Available in: Red Cat W-2240 and Black Cat W-2242

20¢ per metre
100m or more 17¢ per metre

Heavy Duty

23 x 0.2mm. Rated at 240V AC. 7.5 amps. Available in: Red Cat W-2260, Black Cat W-2262 and Green Cat W-2264

25¢ per metre
100m or more 22¢ per metre

Very Heavy Duty

32 x 0.2mm Rated at 240V AC. 10 amps. Available in: Brown Cat W-2280 and Blue Cat W-2282

30¢ per metre
100m or more 27¢ per metre

Ultra Heavy Duty

41/0.32 Insulated/sheathed. Rated at 240 Volts AC, up to 40A (int). Available in two colours.

Red Cat W-2286
Black Cat W-2288

85¢ per metre
100m or more 77¢ per metre

Rainbow Cable

12 colour coded strands of insulated conductor bonded together in a flat cable. Ideal for wiring looms or intercoms etc. Can be laid under carpets. Can be split and the individual wires used — same ratings as W-2220 series of wire. Each 12 x 0.12. Cat W-2045

\$1.90 per metre
100m or more \$1.71 per metre

Telephone-type Cable

This is the type of wire used by Telecom Australia for internal telephone wiring. Ideal for intercoms or any other multi-wire circuit. Individually insulated and colour coded. Solid copper conductors, fully tinned for solder connection or good screw connection.

4 Conductor Cat W-2120
75¢ per metre
100m or more 68¢ per metre

12 Conductor Cat W-2140
\$1.55 per metre
100m or more \$1.40 per metre

Mains Cable

A standard power cable for use where an earth is required. Each wire is separately insulated and colour coded and all three cables are contained in a plastic sleeve to give double insulation. Cat W-2055
Rated at 240V AC and 7.5 amps continuous

\$1 per metre
100m or more 90¢

4-Core Flex

Intended mainly for alarm applications where two conductors are used for alarm sensing and two for tamper protection or power supply, etc. Each conductor is 7/020, and individually insulated. Most alarm installations use between 50 and 100m.
Cat W-2100

95¢ per metre
100m or more 86¢/m

6-Core Flex Mains Rated

Intended mainly for older style rotators which require up to six conductors; also ideal for alarm installations requiring power, tamper and alarm connections.
Cat W-2042

\$2.95 per metre
100m or more \$2.65/m

Fig. 8 Cable Light Duty

Ideal cable for use with hi fi systems for speaker connections or with intercoms. Twin plastic insulated conductors, insulation marked with a trace.

14 x 0.14 Cat W-2010
25¢ per metre. 100m or more 19¢ per metre

Medium Duty

Ideal cable for connecting speakers to systems of up to 200 watts power. Heavy duty with low resistance for long runs with very low power loss. Colour coded for polarity reference. Conductors 14 x 0.20. Cat W-2012

30¢ per metre. 100m or more 23¢ per metre

Heavy Duty

Heavy duty cable that's ideal for running 150W spot lights, etc on the car. Rated at 20A, red and black colour coded insulation for polarity. Conductors 26/0.3 Cat W-2025

85¢ per metre. 100m or more 77¢ per metre

Mains Rated

Ideal for use with extension lights, standard lamps etc., also ideal for use with speakers and intercoms if a lower resistance is required. 24 x 0.20.

Rated at 240V AC, 7.5A. With white PVC insulation. Cat W-2020
60¢ per metre. 100m or more 55¢ per metre

Bell Cable

Super thin two core cable that's ideal for connecting door bells, etc — where the cable is permanently fixed. 1/0.60 with white insulator. Cat W-2005

40¢ per metre. 100m or more 35¢ per metre

Auto Cable

2 x 26/0.32. Similar to fig. 8 cable, it's insulated and sheathed. The same wire used by the manufacturers in automotive wiring harnesses. Nominal conductor area of 2mm². Black/red core colours, rated at 20A (int). Cat W-2027

99¢ per metre. 100m or more 89¢ per metre

"Big Stuff"

Low Loss Cable

Ideal for high power amplifiers' speaker lines, especially where any sort of distance is involved. 256 conductors of 0.127mm oxygen free copper for highest possible conductivity. Low dielectric constant clear PVC insulation. Cat W-2105

\$2.95 per metre. 100m or more \$2.25 per metre

Shielded Audio Cable

Mono Light Duty

PVC covered, light duty, very flexible cable that is ideal for patch cords, small microphones, etc. Colour — Grey.

Cat W-2030
45¢ per metre
100m or more 40¢ per metre

Twin Shielded

2 PVC covered twin shielded conductors. Ideal for microphones, audio patch leads, hook-up wiring, etc. Flexible, light duty. Colour coded. Cat W-2034

65¢ per metre
100m or more 59¢ per metre

Twin Shielded

The same as the single conductor audio lead but with two conductors separately shielded in fig. 8 pattern insulation. Ideal for stereo connection. Colour — grey.

Cat W-2036
85¢ per metre
100m or more 77¢ per metre

Heavy Duty Twin

Two conductors individually shielded and colour coded surrounded by a heavy duty outer insulation sheath. Ideal for use where heavy handling could destroy light duty cables i.e. rock groups etc. Cat W-2037

\$1.55 per metre
100m or more \$1.40 per metre

4 Core Shielded

All 4 conductors are individually shielded and covered by grey PVC insulation. Ideal for use with stereo systems that have DIN type connections. Cat W-2038

\$1.45 per metre
100m or more \$1.31 per metre

4 Core Flat

Just like above (W-2038), this one has 4 conductors individually shielded and insulated. This one though is FLAT and in black finish. Cat W-2039 \$1.35 per metre

100m or more \$1.20 per metre

Heavy Duty Mic Cable

Very heavy insulation and double cotton strengtheners make this the perfect cable for musicians, PA use, etc. — anywhere rough use is expected or accepted. Twin insulated conductors and single shield make it ideal for balanced lines too.

Cat W-2035
\$1.75 per metre 100m or more \$1.55 per metre

IDC Computer Cable

Made especially for IDC (insulation displacement connector) applications: flat, multi-strand cables in 4 sizes. (See plugs and sockets pages for IDC fittings).

Type	Cat No	1-9m	10 up
26 way	Cat W-2750	\$3.10	\$2.80
34 way	Cat W-2752	\$3.95	\$3.45
40 way	Cat W-2754	\$4.95	\$4.45
50 way	Cat W-2756	\$5.50	\$4.95

Five core shielded cable intended for running data cables around buildings, etc., with minimum interference — pick-up or radiation. Wires are individually insulated with drain wire, and insulated from foil shield. Cat W-2040

\$1.85 per metre
100m or more \$1.65 per metre

12 Core Data Cable

Shielded cable for running data cables. 12 individually insulated conductors (7/020) and drain wire, with foil shield for minimum interference. Colour — grey. Cat W-2041

\$2.50 per metre. 100m or more \$2.20 per metre

Coaxial Cable

75 ohm Air Space

High quality low loss TV coax for low signal area installations. Air cored (dielectric), similar size to 5C2V. Cat W-2082
\$1.00 per metre
100m or more 80¢ per metre

50 ohm RG58C-U Commercial

Commercial Grade RG 58 with ultra-fine (18 pitch) braid for lowest loss, lowest noise figure. You asked for better quality — here it is! Cat W-2092
\$1.05 per metre
100m or more 95¢ per metre

50 ohm RG-213 Low Loss

For long runs with minimum loss, without going to the expense of Helix. RG-213 gives better performance at VHF & UHF than RG-8. Cat W-2099
\$3.15 per metre
100m or more \$2.80 per metre

Mini 50 Ohm RG-178 Teflon

Able to handle up to 100 watts at 500MHz due to the Teflon insulation. This also means you can solder directly to the shield braid without melting the insulation. Incredibly small diameter, only 2.5mm! Ideal for wiring into transmitters etc, where space is a premium. High quality. Cat W-2088
1 metre pack — \$4.60 **10 packs or more \$3.95 ea**

Belden 9913 50 Ohm Ultra Low Loss

The highest grade coax we sell. Top quality US made (similar to famous Helix) with only 2.6dB/100ft attenuation at 400MHz (only 4.5dB at 1GHz!) 100% shield coverage. If you want the best, this is it! Cat W-2097
\$5.95 per metre
100m or more \$5.35 per metre

Builder's Cable

At last we've got it! You've been asking us to stock Builder's Cable for years — so here it is. The most popular cables are now available where you want them, at your nearest DSE store.

Twin & Earth

1/113 rated at 10 amps. Used mainly for light circuits, has insulated earth. Cat W-2060
\$1.25 per meter
100m or more 95¢ per metre

Insulated Twin

7/050, our most used builder's cable. Rated at 10 amps with multi-strand insulated conductors, it's great for light circuits with separate earth. Colour coded insulation. Cat W-2061

\$1.40 per metre
100m or more \$1.25 per metre

1/178 Twin and Earth

Rated at 25 Amps this one's ideal for power circuits. With insulated earth and large 2.5mm² conductors. Buy it in the length to suit the job or take advantage of our generous bulk prices. Cat W-2062

\$1.95 per metre
100m or more \$1.75 per metre

Earth Wire

Annealed multi-strand Insulated (green/yellow) Earth Wire 7/067. Can be used as an earth wire or as antenna wire. Cat W-3010

70¢ per metre **100m or more 60¢ per metre**

W I R E & C A B L E

TV Ribbon

300 ohm Feeder

Suitable for indoor or outdoor use. (Black). 300 ohm feeder ribbon for connecting aerials to TV sets — low loss and maintains perfect balance. Cat W-2070
30¢ per metre
100m or more 23¢ per metre

Wire Packs:

The economical way to buy Hook-up Wire Pack

24 metres in total of 12 different colours (that's 2 metres of each colour) of the 10 X 0.12mm hook-up wire. Ideal for the hobbyist, experimenter, etc.
 Cat W-4010

12 colour pack \$2.90
10 up \$2.65

Resistance Wire Pack

Resistance wire suitable for the construction of wire wound resistors, small heater elements, shunts, etc. Also ideal for emitter resistors in high power amplifiers. **Wire size: 28 B&S (diameter 0.32mm).** **Solderable: yes. Resistance: 1.852 ohms/ft. Non magnetic, corrosion resistant. Composition: 45% Nickel, 55% Copper. Maximum continuous service temperature: 540°C.** Cat W-3200
4 metre pack — \$1.05 **10 up 95¢**

Instrument Test Lead Wire Pack

Special 512 strand (YES 512!) very flexible wire that is ideal for test leads or for connection to something that is moving. Very low resistance and only 3mm in diameter. Expensive — yes, but it will last for years. Pack contains 2 metres each of red and black (4 metres total). Cat W-4016
4 metre pack — \$8.95 **10 up \$8.05**

Spaghetti Pack

Contains 30 lengths of assorted colours and diameters (each length being more than 150mm), that totals over 4.5 metres of spaghetti. Cat W-4040.
\$3.45 per pack. **10 up \$3.10.**

Wire Wrapping Pack

This is a high quality insulated IC wrapping wire now in a convenient 5 metre pack — keep a couple of packs handy, you never know when you may need it!
 Cat W-4018 **5 metre pack — \$1.95** **10 up \$1.75**

Tinned Copper Wire

High quality 25 gram roll of 22 SWG (approx. 20 B&S) tinned copper wire. Ideal for PC board links, hard wire jumper leads, chassis wiring, etc. 0.71mm x 8 metres to a roll. Cat W-3022
Approx. 8 metres — \$3.50
10 up \$3.15

Enamelled Winding Wire

Coil winding, motor rewinding, transformer building are no longer a problem with these handy coils of enambed wire. **NOTE:** where possible this wire will be supplied with "Biaflux" insulation. Simply heat wire with a soldering iron and insulation will flow therefore requiring no stripping.

Gauge mm	Gauge	Length	Nett	Cat	Price	10 up
B&S	SWG	metres	weight	No.		
16	1.25	18	8m	100g W-3116	\$4.50	\$4.00
18	1.0	19	12m	100g W-3118	\$4.50	\$4.00
20	0.8	21	18m	100g W-3120	\$4.50	\$4.00
22	0.63	23	24m	100g W-3122	\$4.50	\$4.00
23	.71	25	6m	25g W-3123	\$3.25	\$2.90
24	0.5	25	9m	25g W-3124	\$3.25	\$2.90
26	0.4	27	20m	25g W-3126	\$3.25	\$2.90
30	0.25	33	50m	25g W-3130	\$3.25	\$2.90
32	0.2	36	170m	25g W-3132	\$3.25	\$2.90
36	.125	40	220m	25g W-3136	\$3.25	\$2.90

Fuse Wire

Great for keeping a card of this in the fuse box — just in case! Card of 8, 16, 20 and 30A fuse wire. For light circuits, right up to the electric stove! Cat W-3180
80¢ per pack **10 up 75¢**



Heat Shrinkable Materials

Now we've got a great range of high flexibility, radiation cross linked, flame-retarded, heat shrinkable, military grade polyolefin tubing and compounds. With that sort of description it has to be good. Available in black, white and up to seven colours. Just the size, colour and length you're looking for!

Heat Shrink Tubing

Size	Cat No.	Colour	Price	10 up
1.2m x 1.6mm	W-4100	Black	\$2.30	\$2.05
1.2m x 1.6mm	W-4102	Colours	\$2.30	\$2.05
1.2m x 3.2mm	W-4104	Black	\$2.70	\$2.40
1.2m x 3.2mm	W-4106	Colours	\$2.70	\$2.40
1.2m x 4.8mm	W-4108	Black	\$3.30	\$2.95
1.2m x 4.8mm	W-4110	Colours	\$3.30	\$2.95
1.2m x 6.4mm	W-4112	Black	\$3.50	\$3.15
1.2m x 6.4mm	W-4114	Colours	\$3.50	\$3.15
1.2m x 9.5mm	W-4116	Black	\$3.90	\$3.50
1.2m x 9.5mm	W-4118	Colours	\$3.90	\$3.50
1.2m x 12.7mm	W-4120	Black	\$4.30	\$3.85
1.2m x 12.7mm	W-4122	Colours	\$4.30	\$3.85

Certified to US. Mil spec # MIL-1-23053/5.

Available Colours: White, red, blue, green, yellow, orange, clear and green/yellow. Not all colours available in all sizes.

Encapsulating Heat-Shrink

Measures 150mm x 13mm diameter. Dual wall heat shrinkable material with an adhesive coating which flows during heating to form a Watertight Seal around components, splices, etc. This is a black finish material and is also flame retardant. Cat W-4135
\$4.95 **10 up \$4.45**

Connector Backshell

For forming a backshell on miniature 25 pin connectors. The boot snaps onto the back of the connector and is fixed with jack screws (provided). The heat shrinkable cable entry can be placed on a variety of cable diameters and strain relief is easily achieved by installing a collar onto the cable jacket. Finished in black. Cat W-4130
\$4.95 **10 up \$4.45**

4:1 Heatshrink

Ideal for cable jacket repair or installation over pre-installed connectors. Measures 150mm x 50mm. Unlike many over-expanded products this one has a minimal longitudinal change — only 5% maximum — which makes installation much easier. Black finish. Cat W-4140
\$6.95 **10 up \$6.25**

Pre-insulated Nylon Sealed Splices

DuraSeal preinsulated splices provide a waterproof adhesive seal for protection against corrosion, condensation, heat, etc. In packs of 10 they provide a 1:1 splice and are colour coded in red, blue and yellow, for use with an ordinary crimping tool.

Gauge (Size)	Cat No.	Colour	Price	10 up
18-22 (0.5-1.0mm ²)	W-4145	Red	\$9.50	\$8.55
14-16 (1.5-2.5mm ²)	W-4147	Blue	\$9.75	\$8.80
10-12 (4-6mm ²)	W-4149	Yellow	\$9.95	\$8.95

Fitted Mains Cord

2.0m 7.5A core flex with 3-pin plug on one end: ideal for all mains projects. Cat W-2057
\$3.50
10 or more \$3.15 each

CABLES

TV CABLES

75 Ohm Video

2m quality 75 ohm coax cable fitted with a variety of plugs and sockets to suit most TV, video recorder and computer applications.

Coax to Coax

Both male, fitted with standard coax type plugs. Usually used from wall outlets to TV/VCR etc. Cat W-1400

\$4.40

Coax to Coax

As above, but male one end and female the other — perfect for use as an extension cord, also used on some VCR's (particularly portables). Cat W-1405

\$4.40

RCA to Coax

Both male, for use with many types of VCR/TV combinations, also used in some wall outlet to TV combinations. Cat W-1286

\$7.50

RCA to BNC

Both male. Used on some VCR's as video output cable, also used on many computers to video monitors. Cat W-1290

\$7.95

BNC to BNC

Suits some VCR's and monitors, as well as a lot of professional recording equipment. Cat W-1285

\$8.95

BNC to PL259

Again, used on many video recorders for video output. (Note: not suitable for most transceivers — 75 ohm use only). Cat W-1295

\$7.95

ADAPTOR SETS

Universal Video Cable Set

Own a video cassette? Want to dub tapes? You must have one of these amazing cable sets. Doesn't matter what type: VHS, Beta, Umatic, Philips... this suits any to any! Comes with 2 metre audio/visual cable with phono plugs on each end, plus adaptors to suit BNC, UHF (PL-259), DIN, phono, etc. Every video enthusiast should have one! Cat W-1287

Shipping weight: 944g
Shipping size: 295 x 121 x 37mm

\$29.95

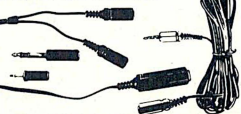


The Complete Headphone Adaptor Kit

Everything you'll ever need to connect headphones to just about anything (except your head)! Comes with stereo 3.5 metre extension cord, 3.5 mm to 6.5mm and 6.4mm to 3.5mm adaptors, stereo to mono adaptor and double headphone adaptor — all in a durable storage case. Cat C-4180

Shipping weight: 210g
Shipping size: 200 x 155 x 30mm

\$14.95



COMPUTER CABLES

Parallel Printer Cable

Standard "Centronics" type printer cable with 36 pin Centronics plug (as used on 99% parallel printers) one end, 25 pin D socket the other. 1.7m long. Cat X-8614

Shipping weight: 340g
Shipping size: 280 x 200 x 30mm

\$24.95

Serial Data Cable

2.35 metre serial cable with male DB25 plug one end, female DB25 socket the other. All 25 pins wired 1-1, etc. For serial printers, modems, computer/computer connection, and other data applications. Also ideal as extension lead for parallel printer cable (gives over 4m). Cat X-3564

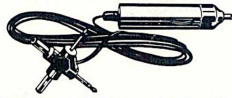
Shipping weight: 390g
Shipping size: 30 x 140 x 20mm

\$26.95

DC POWER LEADS

Car Lighter Power Lead

Fitted with lighter plug one end, 4 way star connector the other to suit most common DC input connectors. Cat P-1680



\$4.95

Midland Power Lead

(Suitable for a huge range of other transceivers with 3 pin plug.) Cat D-9001



\$4.95

DSE Transceiver Power Lead

Or other transceivers with 2 pin plug. Cat D-9006



\$4.95

CB COAX LEADS

50 Ohm CB Coax Leads

Antenna Extension

1m 50 ohm RG58U coax fitted with PL-259 connectors at each end. Ideal for extending CB or HF amateur transceiver leads to allow antenna to be mounted further away. Cat W-1370

Shipping weight: 233g

Shipping size: 179 x 90 x 7mm

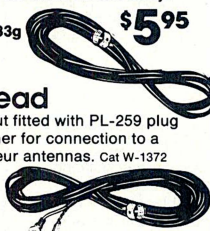
\$5.95

Antenna Lead

Similar to above, but fitted with PL-259 plug one end and lugs on other for connection to a variety of CB/amateur antennas. Cat W-1372

\$5.95

10 up \$5.35



CAR RADIO ANTENNA LEADS

1m Extension

Fully compensated (low signal loss) 1 metre lead. Ideal when your new antenna has a lead which is too short or if you're roof mounting your system. Cat A-7450

Shipping weight: 58g

Shipping size: 260 x 100 x 30mm

\$6.95

4m Extension

Same as the above but this one's 4 metres long. Ideal for rear mounted antennas. Cat A-7452

Shipping weight: 177g

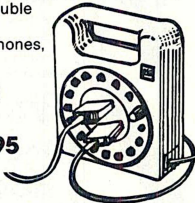
Shipping size: 300 x 100 x 50mm

\$9.95

PHONE CORDS

10m Extension Reel With Double Adaptor!

Take the phone anywhere in the home, office or workshop. Wind the 10 metre cable up and it's kept neat and out of harm's way. The inbuilt telephone double adaptor allows you to plug-in two telephones, or a phone and an answering machine, or a phone and a ...! Cat F-5100

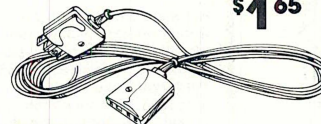


\$24.95

Commander Extension Cord

8m telephone extension cord specifically intended for Telecom "Commander" phones and other 4-wire systems. Cat F-5102

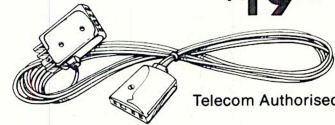
\$1.65



Telephone 15m Cord With Double Adaptor

15m of phone freedom — plus a double adaptor for your cordless phone, answer machine, etc. Cat F-5103

\$19.95

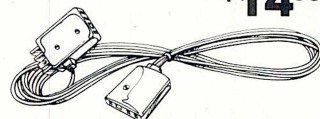


Telecom Authorised

10m Cord With Double Adaptor

A little shorter, a little cheaper. Also includes double adaptor! Cat F-5115

\$14.95



MAINS LEADS

'IEC' 2 Metre Mains Lead

Approved 3 core 240V mains lead fitted with standard IEC line socket (as used on most computers, VCRs, transceivers, etc., etc.) and Aussie 3-pin plug on other. Cat W-1362

7.5A rated

\$5.95

Universal Mains Leads

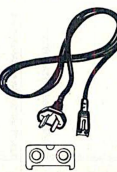


\$3.95

Approved mains cable as used in a huge variety of imported audio, radio, video and other entertainment equipment. Two pin mains plug, approx. 2 metres cable and 'figure 8' type two-pin socket. Note: no earth lead! Ideal replacement cable. Cat W-1360

8.6mm pin spacing

Similar to above, but square-type connector with 7mm spacing suiting Sanyo and other modern audio equipment. Cat W-1361



\$3.95

Audio Adaptor Leads

5 pin DIN plug to 5 pin DIN plug Cat W-1010.....	\$4.50 (10 up \$4.05)
5 pin DIN plug to 2 x RCA plug Cat W-1020.....	\$4.95 (10 up \$4.45)
5 pin DIN plug to 4 x RCA plug Cat W-1040.....	\$6.95 (10 up \$6.35)
5 pin DIN plug to 2 x 3.5mm plug Cat W-1050.....	\$5.45 (10 up \$4.95)
4 x RCA plug to 4 x RCA plug Cat W-1060.....	\$6.95 (10 up \$6.35)
1 x RCA plug to 1 x RCA plug Cat W-1070.....	\$2.75 (10 up \$2.45)
1 x RCA plug to 1 x 3.5mm plug Cat W-1080.....	\$2.50 (10 up \$2.25)
1 x 3.5mm plug to 1 x 3.5mm plug Cat W-1090.....	\$2.50 (10 up \$2.25)
1 x 6.5mm plug to 1 x 1.65mm plug (coiled lead) Cat W-1110.....	\$7.50 (10 up \$6.75)
4 metres coiled lead with 6.5mm stereo plug to 6.5mm stereo socket Cat W-1120.....	\$7.50 (10 up \$6.75)
1 x 3.5mm plug to 1 x 3.5mm line socket Cat W-1150.....	\$2.95 (10 up \$2.65)
1 x 3.5mm stereo plug to 1 x 3.5mm stereo socket Cat W-1160.....	\$3.50 (10 up \$3.35)
2 x RCA plugs to 2 x RCA plug Cat W-1180.....	\$4.95 (10 up \$4.45)
2 x RCA plugs to 2 x RCA plugs Cat W-1185.....	\$2.95 (10 up \$2.65)
1 x 3.5mm plug to 2 x RCA plugs Cat W-1250.....	\$4.50 (10 up \$4.05)
1 x RCA plug to 1 x RCA socket Cat W-1280.....	\$2.50 (10 up \$2.25)

L-o-n-g 'Phones Extension Lead

5m headphone extension lead specifically intended for walkie stereos and radios. Complete with GOLD PLATED 3.5mm plug and sockets which are for long, long life and virtually no corrosion PLUS a gold plated 3.5 to 6.5mm adaptor. Cat W-1165

\$9.95



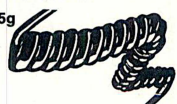
Coiled Microphone Cord

3 metres very flexible microphone cable, with 3 conductors plus shield. The ends of the conductors are pre-tinned and the whole cable is pre-coiled for easy use. Ideal for replacing microphone and headphone cables with appropriate sockets. Cat W-1365

Shipping weight: 95g

Shipping size: 200 x 110 x 20mm

\$4.25



'Y' Adaptor Cables

Two RCA connectors one end, one the other, wired in parallel. Cat W-1190

\$3.50

Two RCA connectors one end, a 3.5mm stereo connector other end, with each RCA wired to a separate channel. Cat W-1240

\$4.95

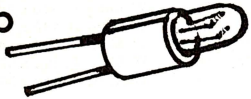
Lamps

Neons

Small pigtail type neon bulb as used in indicators, timing circuits, oscillators, etc. etc. Striking voltage 70-90 volts at 600uA. For 240V operation use 270K 1/4W resistor (other voltages can be worked out from Ohm's Law). Cat S-3862

75¢ 

"Grain of Wheat" Bulb



Tiny globe as used in many push buttons and flashing alarm lights. 12 volt, 60mA bulb with hard-wire (push-in) contacts. Cat S-3845

\$2.25

Halogen Torch Bulbs

At last the benefits of halogen have come to low voltage bulbs: whiter, stronger light. Less infra-red output so they're more efficient. In fact, the manufacturers say up to 300% brighter than conventional bulbs. And yes, they are more expensive — but so are batteries these days. So why waste power? **Note:** halogen bulbs operate at higher temperature so should only be used in torches designed for these bulbs. 3 voltages to choose from: all standard captive fitting.

2.8 volt — use with 2 x "D" batteries Cat S-3950
4.0 volt — use with 3 x "D" batteries Cat S-3955
5.5 volt — use with 6 volt lantern or 4 x "D" batteries Cat S-3960



ALL \$7.95

Floodlamps

PAR 38 Coloured Bulbs

240 volt, highest quality pressed glass with internal reflector. Ideal for semi-rough handling (they are glass, after all!) — eg disco and lightshow use. All rated at 100 watts, ES (Edison screw) fitting.

Yellow: Cat S-3850
Red: Cat S-3852
Blue: Cat S-3854
Green: Cat S-3856

\$10.95



ES Lampholder to suit:

Swivel Edison Screw lamp holder. Batten mounting, swivels through 30°. Cat P-5620

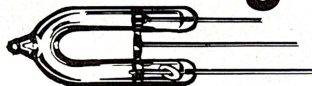
\$7.50



Xenon Flashtube

Xenon-filled flashtube, as used in strobes, warning and safety applications, photographic work, etc. And look at the bargain price: you'd expect to pay double! Operate from 200-400 volts (300V nominal) with 4kV trigger, 5 watts maximum input power. Cat S-3882

\$3.25



Trigger Transformer to suit

4kV trigger transformer for above flashtube. PCB mounting type, 300V primary, 4kV sec. Cat M-0104

\$1.50



MES/LES Lamps

Miniature Edison Screw (MES) and Lilliput Edison Screw (LES) bulbs for dial lamps, etc. Standard 6 and 12 volt types. Ideal for all new work and replacements.

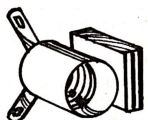


MES 50¢
6 volt Cat S-3806
12 volt Cat S-3812



LES 50¢
6 volt Cat S-3836
12 volt Cat S-3842

Socket to suit MES bulbs. Cat S-3880



75¢

Argus T2L Magnifier/Lamp

Just what the hobbyist ordered! Now there's no reason to strain your eyes soldering intricate PCBs, and possibly ruining a project. The Argus T2L magnifier opens your eyes to a whole new working method that is safe and precise. The thermo plastic magnifying glass (95% glass) provides 3 dioptre (1.75X) magnification. And the built-in 40 watt incandescent lamp floods your work area with light. The two spring loaded arms can be extended up to 95cm, and the chemical-resistant magnifying head is adjustable for an optimum viewing angle. Suits either table/work bench or wall mounting. Cat S-4000

\$99.95



Bezels

Miniature LED Bezel

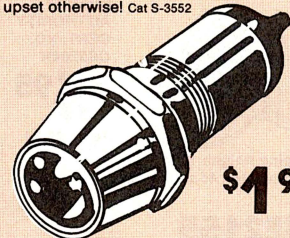
Our most popular. Low current drain (20mA @ 2 volts) but offering high visibility. Smart chrome bezel, needs a 7mm hole. Two colours available:
Red Cat S-3528
Green Cat S-3529



\$1.50

Miniature Neon Bezel

A favourite because of its tiny size. Used a lot in mains powered projects — simply use 270k resistor in series. Requires only 7mm mounting hole, and the bezel itself is chrome-coloured. Remember to use a series resistor with all neons — they tend to get upset otherwise! Cat S-3552



\$1.95

Dual Colour LED Bezel

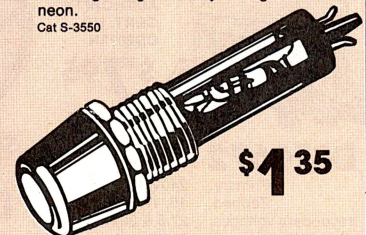
Red and green in one!
A fantastic idea! Two LEDs in one bezel — ideal for two-state indication (on/off, etc.). Chrome plated bezel, ideal for logic circuits, etc. Operates on 1.3-1.5V @ 25-30mA. Cat S-3530



\$4.75

240V Neon Bezel

Intended for 240 volt projects, this bezel can be wired direct to the mains. It has a series resistor actually mounted inside the bezel case. It requires a 9mm mounting hole, front of bezel is neat clear plastic resulting in high visibility red light from neon. Cat S-3550



\$1.35

LED Mounting Bezels

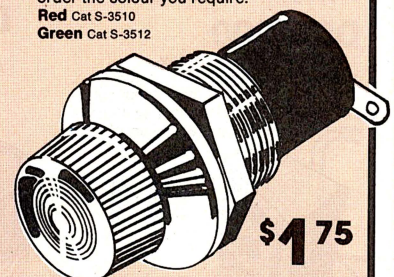
When using LEDs on front panels, etc. use these self-locking bezels. Suit standard size (5mm) LEDs, and make a really neat job. They work out at around 9¢ each! (Pack of 15 bezels). Cat H-1910



\$1.35

12V Bezel

A very attractive medium size bezel using a 12V LES bulb. The plastic lens is available in two colours (red and green) for various uses, and the lens itself is flat-topped, resulting in a modern appearance. The body of the bezel is chrome plated. Requires an 11mm mounting hole, and obviously 12volts AC or DC. Don't forget to order the colour you require.
Red Cat S-3510
Green Cat S-3512



\$1.75

TRANSFORMERS

DSE2824

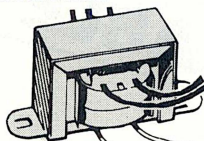
Primary: 240V, 50Hz
Secondary voltage: 3.5-0-3.5V & 7.5V
Secondary current: 250mA & 10mA
Terminations: Flying leads

Shipping weight: 116g
Shipping size: 30 x 35 x 15mm

Cat M-2824

\$5⁹⁵

10 up \$5.35

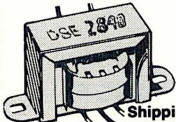


DSE2840

Primary: 240V, 50Hz
Secondary voltage: 4.5-0-4.5V
Secondary current: 150mA
Terminations: Flying leads

10 up \$5.35

\$5⁹⁵



Shipping weight: 193g
Shipping size: 45x 75 x 50mm

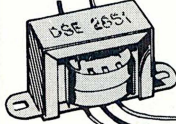
DSE2851

Primary: 240V, 50Hz
Secondary voltage: 6.3-0-6.3V
Secondary current: 150mA
Terminations: Flying leads

Cat M-2851

10 up \$5.35

\$5⁹⁵



Shipping weight: 193g
Shipping size: 45 x 75 x 50mm

DSE2155

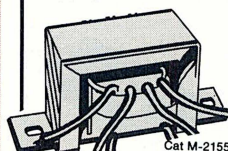
Primary: 240V, 50Hz
Secondary voltage: 6.3, 7.5, 8.5, 9.5, 12 & 15V
Secondary current: 1 amp
Terminations: Flying leads

Shipping weight: 491g
Shipping size: 100 x 60 x 50mm

ENERGY
AUTHORITY
CERT. NO.
CS2078N

\$7⁹⁵

10 up \$7.15



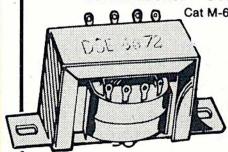
DSE6672

Primary: 240V AC
Secondary voltage: 15, 17.5, 20, 24, 27.5 & 30V
Secondary current: 1 amp
Terminations: Solder lugs

ENERGY
AUTHORITY
CERT. NO.
CS2205N

\$13⁹⁵

10 up \$12.55

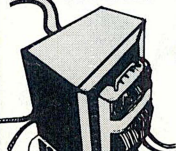


Shipping weight: 1.63kg
Shipping size: 100 x 65 x 65mm

DSE1200

Primary: 240V
Secondary voltage: 40V @ 10mA, 19V @ 200mA, 11.2V @ 450mA
Terminations: Flying leads

\$11⁹⁵



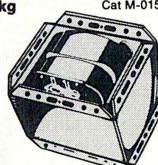
DSE0153

Primary: 240V AC
Secondary voltage: 35-0-35V
Secondary current: 2.5A
Terminations: Flying leads

Cat M-0153

Shipping weight: 3.5kg
Shipping size: 100 x 80 x 80mm

\$57⁹⁵



DSE1990

Primary: 240V
Secondary voltage: 18V
Secondary current: 2.2A
Terminations: Flying leads

Cat M-1990

\$16⁹⁵

10 up \$15.25

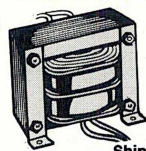
Shipping weight: 1.234g
Shipping size: 100 x 90 x 60mm



DSE0144

Primary: 240V AC
Secondary: 28-0-28V
Secondary current: 2A
Terminations: Cat M-0144

\$34⁹⁵



Shipping weight: 2.4kg
Shipping size: 95 x 80 x 70mm

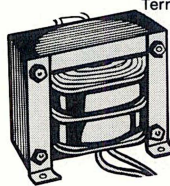
DSE2000

Primary: 240V, AC
Secondary: 18 volts @ 6A
Terminations: Flying leads

Cat M-2000

\$36⁹⁵

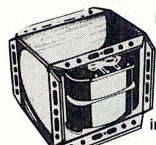
10 up \$31.45



DSE2010

Massive 18 volts at 14 amps continuous... ideal for high power rating power supplies, linear amplifiers, etc, etc. Compare our price with what you've had to pay in the past... What a bargain!

Cat M-2010



Suits 13.8V 25A pk supplies
As used in our VK powermaster kit

\$69⁹⁵

DSE 1602

Standard toroidal transformer suited to audio work. Terminations are soldered flying leads and it's supplied with neoprene rubber insulating disks and centering washer.

Primary: 240V AC
Secondary: 2 x 35V @ 2.5A, 2 x 15V @ 0.25A
Size: 113mm OD x 48mm

Cat M-1602



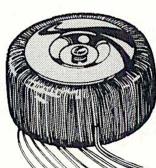
\$69⁹⁵

DSE 1600

Toroidal construction transformer. Ideal for amplifiers — low flux leakage, less hum, low profile. Comes with neoprene rubber insulation disks and centering washer for ease of mounting.

Primary: 240V AC
Secondary: 2 x 45V @ 3.3A, 2 x 15V @ 0.2A
Size: 113mm OD x 58mm

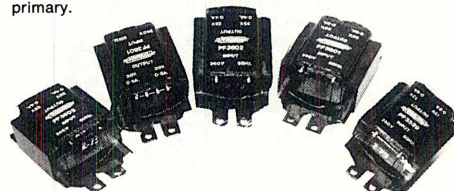
Cat M-1600



Shipping Weight: 2.55kg
\$79⁹⁵

Energy Authority fully approved Low Cost Low Profile

Each transformer has two separate secondary windings which can be wired in series or in parallel. They are fitted with round pin terminations and include connectors. 240V AC primary.



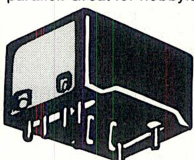
All one price!
\$29⁹⁵ each
10 up \$26.95

PL12/20VA 2 x 6V@1.7A — 6V@3.4A — 12V@1.7A M-3596
PL15/20VA 2 x 7.5V@1.3A — 7.5V@2.6A — 15V@1.3A M-3597
PL18/20VA 2 x 9V@1.1A — 9V@2.2A — 18V@1.1A M-3598
PL24/20VA 2 x 12V@.85A — 12V@1.7A — 24V@.85A M-3599
PL30/20VA 2 x 15V@.69A — 15V@1.3A — 30V@.69A M-3600
PL40/20VA 2 x 20V@.51A — 20V@1A — 40V@.51A M-3601

W. 660g S. 110 x 50 x 65mm
W. 640g S. 110 x 50 x 65mm
W. 650g S. 110 x 50 x 65mm
W. 660g S. 110 x 50 x 65mm
W. 670g S. 110 x 50 x 65mm
W. 660g S. 110 x 50 x 65mm

PCB Mounting Transformers

Mounts directly onto the PCB which makes wiring incredibly simple. Two separate secondary windings — can be series or parallel connected. Gives 24 volts at 0.21 amp in series or 12 volts at 0.42 amp in parallel. Great for hobbyists! Cat M-3590

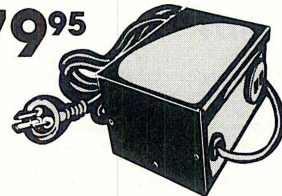


\$19⁹⁵
10 up \$17.95

Need 115 Volts?

Quality stepdown transformer from Arlec for powering 115 volt equipment. Great for anything that comes from the USA. 240 volts input, 60VA capacity. Enclosed in sturdy metal case for safety it has US style 2-pin socket, fuse and 2 metre card with plug. Cat M-1156

\$79⁹⁵



Shipping Weight: 3kg
Dimensions: 88 x 132 x 68mm

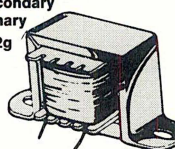
Audio Line Transformer

This transformer has been engineered to cover more than 95% of all PA — BGM applications. Suited to all speaker impedances. Multitapped for use with 100V or 70V lines. 52mm mounting centres. Cat M-1100

- Multi-purpose matching transformer
- 4 watts rms rating
- 2, 4, 8, 16 ohms secondary
- 2.5K, 5K ohms primary

Shipping weight: 172g
Shipping size: 65 x 40 x 40mm

\$6⁵⁰
10 up \$5.85



600 ohm/600 ohm Isolation Transformer

Intended for modems and other telephone line applications, isolates line from device to comply with Telecom regulations. Fully approved by Telecom Engineering branch. Cat M-1210

\$16⁹⁵

Transistor Audio Transformers

Ideal for transistor radio replacements, good for transistor projects including oscillator circuits, requiring coupling transformers. Miniature size.

Model M-0222 — • Primary

3k ohm • Secondary 3k ohm
• Use — coupling • Iron Core
• Size 17(l) x 15.5(w) x 15(h)mm. Cat M-0222

\$1⁹⁵



Model M-0216 — • Primary

1k ohm • Secondary 8 ohm
• Use — 350mW O/P
• Ferrite Core • Size 15(l) x 14(w) x 11.5(h)mm. Cat M-0216

\$1⁹⁵



DSX PRESS

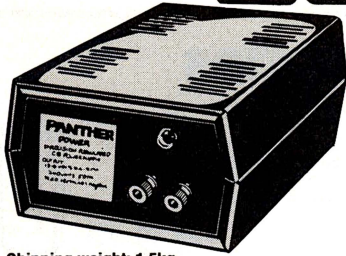
DICK SMITH ELECTRONICS EXPRESS ORDER SERVICE

STD FREE

(008) 22 6610

(SYDNEY AREA (02) CALL 888 2105)

POWER SUPPLIES



12V @ 1.5A Regulated

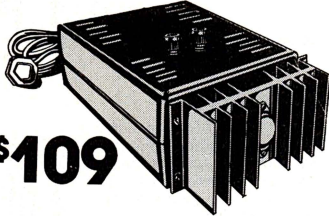
Just right for CB's, car radio/stereos, small amateur transceivers (hand-helds especially), etc. 12 volts DC regulated with terminals for easy connection. Makes a great service supply, too. Cat M-9545

\$75

Shipping weight: 1.5kg
Shipping size: 180 x 170 x 90mm

13.8V/4A Peak

Need more oomph? Try this one: the high power Panther. For the 2m or small HF amateur transceiver, a supply for 'auto' equipment, even a bench supply for service work — you'll go a long way to find a better supply. With a 3 amp continuous (or 4A continuous at 75% duty cycle) and a huge 8 amp instantaneous peak rating, it's ideal for those higher current and higher peak demand applications that the above supply can't manage. Cat M-9547



\$109

- Heavily heatsunk for maximum output
- Colour coded output terminals
- LED indicator also shows overload or short circuit

Shipping weight: 2.25kg
Shipping size: 200 x 145 x 115mm

3-6-9-12V DC @ 1amp



\$29⁹⁵

Just plug it around the home or workshop. It will give a maximum of 1 amp at 3, 6, 9 and 12 volts DC. Simply plugs into 240V AC power socket — DC connections via screw terminals on front of unit. Ideal for use with alarm systems, intercoms, etc. Cat M-9530

- Overload protection
- Simple screw terminal connection
- High 1A output

Shipping weight: 7.25kg
Shipping size: 200 x 90 x 65mm

Protect your computer system with a

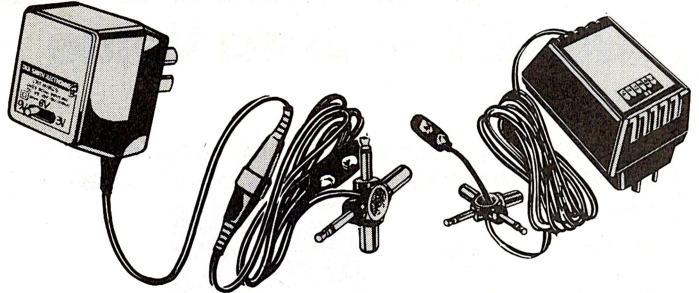


\$149

Jabel Line Filter

Spikes, spurgels and sundry other garbage on the mains can spell disaster for your poor computer. Even separate sections of the computer can cause mains hash (eg printer). This deluxe filter virtually eliminates most mains-borne garbage giving your computer a clean line of supply with which to operate. If you're having 'crash' problems with your computer — could be this filter will fix it! Rated at 240 volts, 2 amps. Fully approved by the Energy Authority. Cat M-9850

Shipping weight: 1.25kg
Shipping size: 220 x 115 x 75mm



3-6-9V DC @ 200mA

This battery eliminator is one of the most superb buys in this catalogue — many thousands have been purchased by people who know how to save money! It is a small plug-in unit that has three output voltages of 3, 6 and 9 volts DC at 200 milliamps — possibly the three most used voltages on battery powered equipment. It is ideal for many battery driven items. Cat M-9525

Shipping weight: 305g
Shipping size: 255 x 165 x 50mm

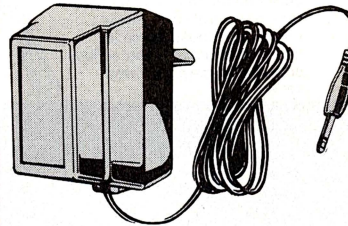
\$16⁹⁵

3-4.5-6-7.5-9-12V @ 300mA

An extremely versatile supply ready for just about any application. Switchable output gives 6 different voltages ranging from 3V to 12V, at up to 300mA. Cat M-9526

\$17⁹⁵

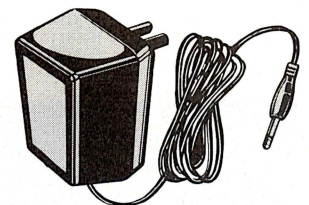
Shipping weight: 300g
Shipping size: 120 x 92 x 50mm



9V DC @ 200mA

For all equipment requiring 9V DC at a 9V transistor type battery or many other static hobby models that require 9V. Eliminator modules simply plugs into a 240V AC power socket. Cat M-9514

\$11⁹⁵
Shipping weight: 300g
Shipping size: 120 x 92 x 50mm



9V DC @ 600mA

Extra high power — ideal for 9 volt equipment which needs more than the low power-plug packs can provide (such as cassette recorders, etc). Cat M-9560

Shipping weight: 350g
Shipping size: 100 x 50 x 50mm

\$27⁹⁵

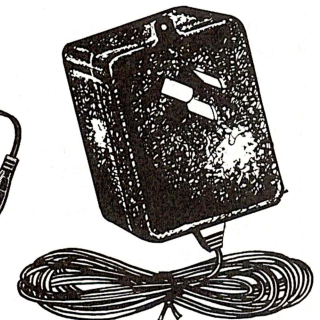


12V AC @ 500mA

Ideal power supply for projects that require 12V AC at 500mA. Because the whole of the plug-pack is a transformer, you get a much higher current rating than other plug-packs. Rectifiers and filter components can be placed inside the project itself. Cat M-9555

Shipping weight: 300g
Shipping size: 120 x 92 x 50mm

\$29⁹⁵



AC Supply 16V 900mA

The biggest problem with most projects is fitting in the transformer! This one obviates the problem — keep the supply components inside, but the plug-pack hangs on the power point! With a very healthy 16V at 900mA, it's perfect for 12 volt DC supplies. Energy authority approved. Cat M-9567

Shipping weight: 656g
Shipping size: 105 x 65 x 95mm **\$14⁹⁵**

Car Voltage Converter

6, 7.5 and 9 volts output at 800mA

Most battery devices include an external DC connection. Use them in the car from your car battery via this voltage converter. Suitable for high current device, simply plugs into cigar lighter. Output has switchable polarity as well as voltage, includes 4-way connector plus battery "snap". Cat M-9584

\$15⁹⁵



BATTERIES & CHARGERS

NICADS — Extra Value Packs

Save with NiCad battery packs! Long life, high power batteries for all you portable power needs.

STANDARD NICADS

Qty	Type	Cat No.	Price
4 x AA	500mAh	S-3150	\$19.95
2 x C	1.2Ah	S-3152	\$23.95
2 x D	1.2Ah	S-3154	\$23.95

EXTRA HEAVY DUTY NICADS

4 x AA	600mAh	S-3160	\$24.95
2 x C	2.0Ah	S-3162	\$31.95
2 x D	4.0Ah	S-3164	\$33.95

Extra Heavy Duty NiCads

For long life, high power and reliability. DSE carries an extensive range of heavy duty NiCads and it's extending all the time. Whatever your battery needs — drop into your nearest DSE store and save!

Type	Cat No.	Price
AA	600mAh	S-3312 \$5.95
C	2.0Ah	S-3311 \$14.95
D	4.0Ah	S-3310 \$15.95
Sub C	Fast Charge	S-3324 \$5.95



7.2V Racing Pack NiCads

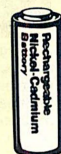
Powerful, long-life 7.2V packs designed for Tamiya and other remote control cars. Totally reliable, the ideal choice for lasting off-track run and serious competition staying power! Cat S-3326



NiCad Batteries

'AAA' size

At last, you can get 'AAA' rechargeables! Now all those toys, calculators, etc using this popular size can benefit from the much lower overall cost of NiCads. 1.2 volts, 180mAh rating. Cat S-3305



\$4.95

10 up \$4.25

'C' size

Use to replace standard 'C' size batteries. Higher capacity (1.2Ah) for longer use. Single cell. Cat S-3301



\$11.95

10 up \$8.95

'AA' (penlight) size

Popular NiCad cells. Can be recharged up to 200 times! Rated at a massive 500mAh this battery is suitable for almost all devices using standard AA batteries. 1.2 volts Cat S-3300



\$4.75

10 up \$3.15

'D' size

Also rated at 1.2Ah, but has same physical size as standard 'D' battery. Used in models, toys, etc. Cat S-3303

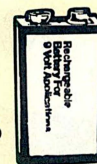


\$11.95

10 up \$9.95

'216' size

At last! A true 9V NiCad in the popular '216' (transistor radio) size. Don't be fooled by most models: they're really 7.2V! This one gives full output! 100mAh rating. Cat S-3308



\$21.95

10 up \$17.95



Exclusive to DSE!!

NEW FOR 88

Toshiba Quality NiCads

Top quality NiCads from one of the world's biggest electronics manufacturers. The four most popular battery sizes to power... just about anything!

AAA 180mAh
Cat S-3350

\$4.95

AA 500mAh
Cat S-3351

\$4.75

C 1800mAh
Cat S-3352

\$2.95

D 1200mAh
Cat S-3353

\$10.95

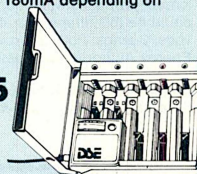
NICAD CHARGERS

Up To 8 Batteries At Once... The DSE Charging Cabinet

The universal charger that'll do a big bunch of batteries at one time! Charges AAA, AA, C, D and 9 Volts in virtually any combination. That's right up to 8 cells and/or 3 x 9 Volts at one time.

Features indicator lights for each cell, reverse polarity protection, mains operation, test meter and more! Automatically selects 50mA, 120mA or 180mA depending on battery size. Great buy! Cat M-9505

\$39.95



For High Capacity NiCads

Similar to DSE Charging Cabinet at left (same size and capacity) but this one is specifically intended for "High Capacity" NiCad batteries. Charges 600mAh AA, 1.8 & 2Ah C, and 4Ah D cells at their correct rates. (Same features as standard cabinet except no test meter on this model). Cat M-9506

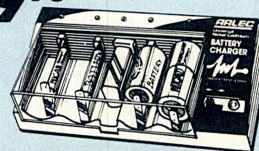
\$39.95

Arlec Universal Charger

Just what you need for all your NiCads! Charges 9 Volt, 'D', 'C', 'AA' and 'AAA' batteries either singularly or in any combination — up to a maximum of five batteries at one time.

Charge rate automatically adjusts according to battery size and each battery position has an indicator lamp. The Arlec PS519 operates from mains power supply and has facility for testing 1.25 volt batteries. Cat M-9521

\$39.95

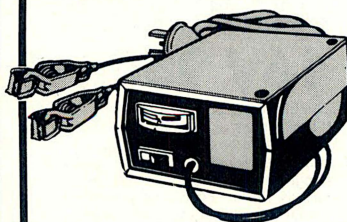


Car Battery Charger

This one will get you going — fast. With a high 4A charge rate it will completely charge a dead battery overnight; it could get you going in much less time. Complete with charge meter so you won't overcharge the battery. Top value! Cat M-9800

\$44.50

Shipping weight: 1.5kg
Shipping size: 200 x 95 x 150mm



NiCad Charger

Most devices these days allow for an external charger to be plugged in to charge NiCads (usually a 2.5mm socket). This charger is ideal for all NiCad packs from 6 to 10 cells (ie 7.2 to 12 volts). Fully approved by Electricity Authority. Cat M-9517

\$17.95

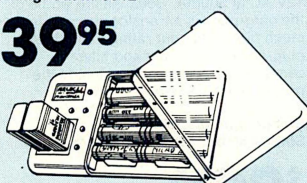
Shipping weight: 290g
Shipping size: 255 x 170 x 60mm

Arlec Slimline

Designed to charge the two most popular batteries quickly and reliably. The Arlec PS829 will charge up to 8 x 'AA' (Penlight) batteries and 2 x '9 Volt' simultaneously or in virtually any combination.

Simply plugs into the mains socket (reduces the voltage to 12 volts for safety) and the charging indicator lamps tell you it's working. Cat M-9512

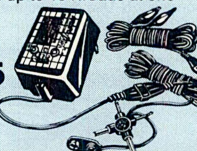
\$39.95



Multi Current Arlec Charger

In-situ charger for all NiCad types (AAA to 9V) with 4 different charging currents and 6 different connector types to suit all device sockets. Handles up to 10 NiCads at one time. Cat M-9510

\$39.95



BATTERIES

Top Name EVEREADY...

Heavy duty

Eveready Red batteries in 5 types.
How's your lantern battery?

Qty	Type	Cat No.	Price Each	Price 10 up
216	9V	S-3106	\$1.95	\$1.75
276P	9V	S-3210	\$14.95	\$13.95
2362	9V	S-3200	\$14.95	\$13.95
509	6V	S-3240	\$4.75	\$4.75
732	12V	S-3242	\$24.95	\$22.95
731	6V	S-3244	\$12.95	

1015	AA	S-3100	65¢ each
1035	C	S-3102	85¢ each
1050	D	S-3104	95¢ each



Energizer

Top brand name, top quality! Energizer Alkaline Energizers, recommended for extra heavy duty applications where normal batteries turn up their toes. All normal sizes available; always guaranteed fresh and ever ready!

Qty	Type	Cat No.	Price Each	Price 10 up
Pack 2 'AAA'		S-3278	\$3.95	\$3.65
Pack 2 'C'		S-3282	\$4.25	\$3.95
Pack 2 'D'		S-3284	\$4.95	\$4.75
1x216 (9V)		S-3286	\$4.95	\$4.75
1 x 529 (6V)		S-3245	\$24.95	
Pack 4 'AA'		S-3287	\$4.95	

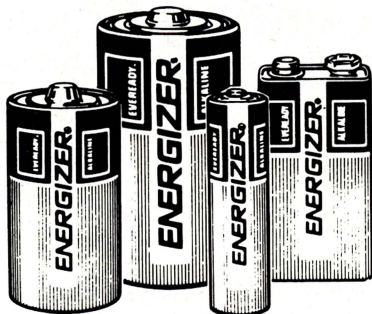


Photo Batteries

You'll find a great range of batteries for your camera equipment at DSE!

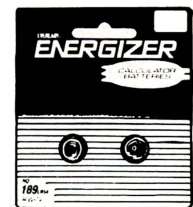
Type	Cat No.	Price
2L76BPI 3V	S-3060	\$11.95
S76BPI	S-3080	\$5.95
A544BPI 6V	S-3289	\$7.95



Calculator Batteries

Lithium calculator batteries now in the three most popular sizes. Suit a large range of scientific and statistical calculators. Blister packed for freshness.

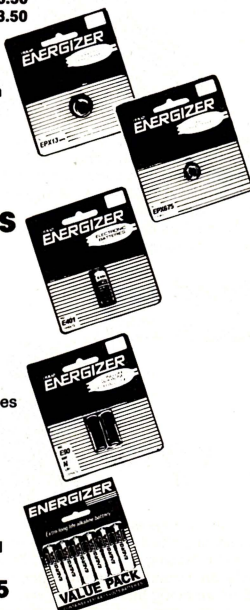
E-CR2025	Cat S-3330	\$3.75
E-CR2032	Cat S-3331	\$3.75
E-CR2016	Cat S-3332	\$3.75



Calculator/Games Batteries

The most popular Alkaline batteries for calculators and games from Eveready! In packs of TWO for economy and convenience.

Type	Cat No.	Price
A76 x 2	S-3061	\$3.95
186 x 2	S-3062	\$3.50
189 x 2	S-3063	\$3.50



Photographic Batteries

Individually packed Eveready Mercury Batteries as used in cameras and photographic equipment.

Type	Cat No.	Price
EPX13 (1.35V)	S-3065	\$5.25
EPX675 (1.35V)	S-3066	\$5.25

Mercury Electronics Series

As used in radios, small torches and for electronic instruments, etc. More Eveready reliability and quality in individual pack.

Type	Cat No.	Price
E401 (1.4V)	S-3070	\$5.25

General Purpose 'N' Size

The high performance Alkaline Battery used for small devices like remote controls for garage doors, etc. Comes in convenient pack of two as most used.

Type	Cat No.	Price
E90 x 2	S-3288	\$3.95

Bulk Saving!

Get a 6-Pack of Eveready 'AA' Alkaline batteries and you'll save on individual prices! The AA is the most popular battery of all. It's used in radios, cameras, toys... hundreds of different appliances! Cat S-3290

\$7.95

Gel Cells No leak, rechargeable

12V 2.6Ah

There's no need to mess about with motorcycle cells, etc. for your alarm system and emergency supplies. Gel cell supplies high outputs without the mess of lead-acid batteries. Even keep it trickle charged via alarm or other mains supply. Measures: 125 x 95 x 35mm. With quick charge connectors. Cat S-3320

\$38.95



12V 1.2Ah

Mini Gel cell that's ideal for alarm applications... with enough oomph for other uses! Features colour-coded spade connectors. Measures 100 x 45 x 55mm. Cat S-3315

\$35.95



12V 6.5Ah

Heavy-duty, leak proof cell that's ideal for all general purpose applications: alarms, motorcycles, etc. Cat S-3322

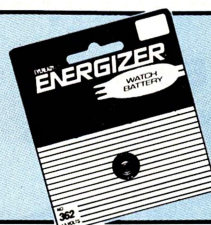
\$55.95



Watch Batteries Equivalent Guide

Now you can get your watch/clock batteries at low cost!

		JIS	Eveready	Mallory	Hi Watt
Cat S-3292	\$2.95	G10	389	10L12	S-120
Cat S-3293	\$4.50	G13	S76	10L14	S-200
			303		
			357		
Cat S-3295	\$3.25	G12	386	10L24	S-150
			S41		
Cat S-3296	\$2.75	G8	391	10L130	
Cat S-3299	\$1.50	G3	392	10L125	S3-140
			S312		



Silver Oxide Batteries

Type	Cat No	Price
362	S-3050	\$2.50
364	S-3051	\$2.50
384	S-3052	\$2.50
393	S-3053	\$3.50
397	S-3054	\$2.75



Dick Smith Electronics Wholesale

Why buy from five or six small wholesalers when you can buy nearly all of your electronics needs from Australia's leading electronics wholesaler?

By purchasing product through DSE Wholesale, you will benefit from the following services:

1. A 4 tier wholesale price discount structure that provides additional discounts for quantity purchases.
2. One of the most sophisticated quality assurance programs in Australia.
3. An outstanding service organization with outlets in all capital cities and many of the outlying areas.
4. A distribution network which can guarantee immediate despatch of all orders.
5. One of Australia's largest inventories of components and consumer electronics.

If you are purchasing product in volume, you should contact DSE Wholesale, the full service wholesale supplier.

M I C R O P H O N E S

Uni-directional Dynamic

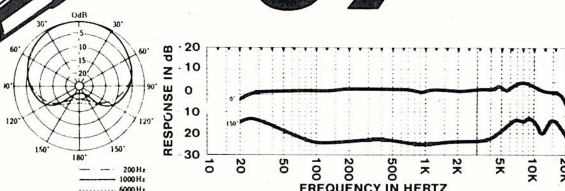
A dynamic cardioid microphone ruggedly constructed so it is ideal for bands and PA work. Because of its cardioid polar pattern it is less sensitive to rear noises. Its dual impedance increases its range of uses. Great for the hi-fi buff, audio freak and because of its low price it would also be ideal for schools, colleges, etc. Cat C-1030

Specifications:

- Impedance 600 ohms and 50K ohm
- Freq. response 60-15kHz
- Sensitivity -73dB (600 ohms) & -54dB (50K ohm)
- 6 metres of cable with plug fitted
- Microphone holder inc.



\$59⁹⁵



Universal Dynamic Mic

Designed especially for AM and SSB transceivers. This economical mic is supplied with a 5-wire (4 lead plus shield) 2 metre lead that can be adapted to any transceiver — even ones with electronic switching! Has a nominal 600 ohms impedance, can be re-wired with internal transformer for 50K. Supplied with a standard 4 pin socket. Cat C-1102

Shipping weight: 125g
Shipping size: 120 x 105 x 25mm



\$24⁹⁵

Noise Cancelling Mic

Ideal for the amateur or CB'er. Noise cancelling is achieved by use of twin out-of-phase inserts. Fitted with a high quality PTT switch and coiled lead. Impedance is 250-600 ohms with a frequency response of 300-5000Hz. Cat C-1105

Shipping weight: 150g
Shipping size: 145 x 80 x 50mm

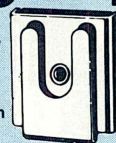


\$34⁹⁵

Mounting Clips

Magnetic: Cure a dangerous dangling microphone with this clip. It attaches to the rear of most hand-held microphones. A strong magnet holds the microphone securely in place to any ferrous surface. Cat C-1260

Shipping weight: 40g
Shipping size: 40 x 35 x 20mm



\$2⁹⁵

Screw-in: A simpler type clip, can be screwed to any convenient location — the mic is held securely by a spring in the clip. Complete with mounting screws. Cat C-1262

Shipping weight: 15 g
Shipping size: 50 x 25 x 10mm



\$1⁵⁰

Sundowner Hand Held Speaker Mic

Designed especially for the Sundowner UHF Hand Held (D-1807). Allows much greater flexibility for the operator with both speaker and microphone in one compact unit so you can leave the transceiver on your belt, etc. Cat C-1027

\$59⁹⁵

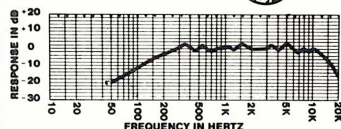


Quality Microphone Accessories

Omni-directional Dynamic



\$35



This budget priced general purpose dynamic microphone is ideal for recording purposes. It is high impedance to suit most tape recorders. Cat C-1025

Specifications:

- 50K ohm impedance
- Freq. response 80-13kHz
- Sensitivity -54dB at 1kHz
- 6 metre cable, mic holder and 6mm plug supplied.

Stereo Electret



\$49⁹⁵

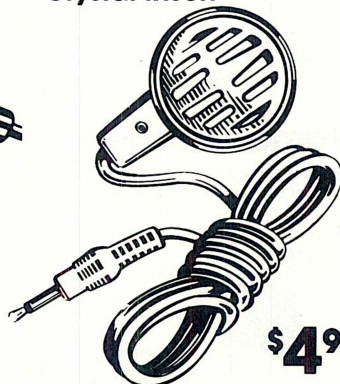
**At last!
A true Stereo Microphone!**

Outstanding value stereo microphone! Ideal for those who want quality but don't wish to pay a fortune for it. This is a uni-directional mic with built-in windscreen to protect against noise if used outside. Floating constructions helps eliminate vibrations and touch noise. Cat C-1028

Features:

- built-in on/off switch
- frequency response 50-2000Hz
- sensitivity 64dB
- S/N ratio 40dB
- output impedance 1K ohm max. (At only 160g it's easy to handle!)
- Comes complete with stand, 3 metre cord and plugs!

Label Microphone Crystal Insert



\$4⁹⁵

Save a bundle with the very popular high impedance microphone which has a crystal insert. It is ideal for use with valve amplifiers. Chrome finish, looks smart and the price is so low! Experimenters can use this microphone as it is very rugged. Cat C-1010

Dynamic Cassette Mic



\$9⁹⁵

The perfect replacement for your cassette recorder. Can also be used with cassette recorders having a separate microphone as well as a built-in microphone. The cassette must have a low impedance input (99% of those on the market) and the unit comes complete with main 3.5mm signal plug and 2.5mm remote switching plug. This unit will save your cassette recorder from becoming obsolete. Cat C-1015

Tie Clasp Electret

Just like the microphones used by interviewers when they want the mic to be inconspicuous, but with this one you also get fantastic pick-up and perfect clarity. The microphone comes complete with tie-clasp and 2 metres cord, terminated with a 3.5mm phone plug. Being a low impedance device it is also ideal for use with your cassette recorder for recording the family or lecture notes, etc. Cat C-1060



\$29⁹⁵

Stand and Boom Clip



\$7⁹⁵

Powerful springs enable this clip to hold virtually any sized microphones securely and yet releasing is a simple two finger operation. Has standard microphone and boom fitting threads. Cat C-1270

Electret Insert



Making or repairing a microphone? This unit will fit most makes and has a high sensitivity with omni-directional characteristics. Connection data supplied. Weighs only 1.5 grams! Cat C-1160

\$3⁹⁵

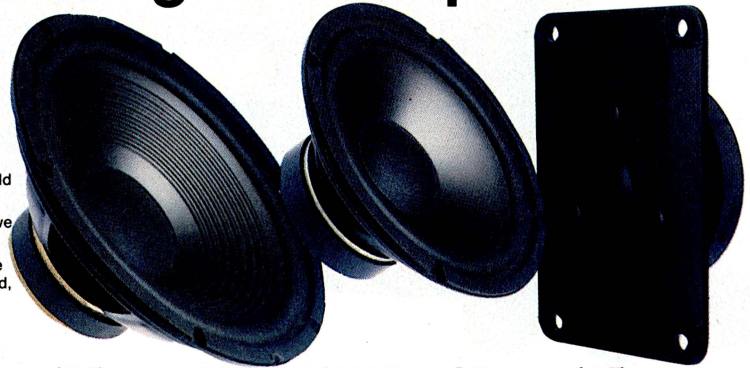
How To Describe The NEW Range Of DSE Speakers... ASTOUNDING!!

Get The New Sound!

Got your new CD? Pity the rest of the system wasn't up to it! Why not replace those old speakers with our new range of high-tech drivers? You won't believe the sound.

We tried all the standard speakers around and found the only way to get the quality we wanted was to have our own manufactured... and here they are!

All are powerful high compliance speakers offering smooth transition right across the frequency range and feature huge magnets, polycarbon cones and specially designed, foam surround free-edge suspension system. The result — superb sound characteristics!



300mm (12")

Coil Impedance: 8 ohms
Rated Input Power: 40 Watts
Max. Input Power: 80 Watts
Free Air Resonance: 25Hz \pm 5Hz
Upper Frequency Limit: 6KHz
Sensitivity: 96dB/W \pm 3dB @ 1 Watt 0.5 metres
Magnet Weight: 848g
Cat C-2040

\$79

250mm (10")

Coil Impedance: 8 ohms
Rated Input Power: 40 Watts
Max. Input Power: 80 Watts
Free Air Resonance: 40Hz \pm 8Hz
Upper Frequency Limit: 6KHz
Sensitivity: 94dB/W \pm 3dB @ 1 Watt 0.5 metres
Magnet Weight: 848g
Cat C-2041

\$69

200mm (8")

Coil Impedance: 8 ohms
Rated Input Power: 30 Watts
Max. Input Power: 60 Watts
Free Air Resonance: 40Hz \pm 8Hz
Upper Frequency Limit: 8KHz
Sensitivity: 92dB/W \pm 3dB @ 1 Watt 0.5 Metres
Magnet Weight: 502g
Cat C-2034

\$49

162mm (6 1/2")

Coil Impedance: 8 ohms
Rated Input Power: 30 Watts
Max. Input Power: 60 Watts
Free Air Resonance: 55Hz \pm 11Hz
Upper Frequency Limit: 6Hz
Sensitivity: 87dB/W \pm 3dB @ 1 Watt 0.5 metre
Magnet Weight: 283g
Cat C-2042

\$29

25mm (1") Dome Tweeter

Coil Impedance: 8 ohms
Effective Frequency Range: 2Hz - 20KHz
Sensitivity: 100dB/W @ 1 Watt 0.5 metres
Magnet Weight: 152g
Cat C-2044

\$19.95

Piezo Ceramic

This superb piezo-ceramic tweeter is an ideal replacement tweeter. Handles up to 40 watts continuous. Frequency response from 5KHz to 27KHz! Suits all 8 ohm systems. Can be used with or without crossover.

Cat C-2005



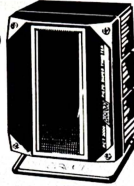
\$18.95

PCT 2000 Piezo

A high performance tweeter of exceptional quality! Fully enclosed, with removable stand and spring loaded connector terminals.

Cat C-2007

Features: • Handles 75W
• Impedance 1200 ohms/1KHz & 40 ohms/40KHz • Frequency response 3500Hz to 40000Hz
• Efficiency 90dB/1W at 1mm



\$24.50

57mm Mini Speaker

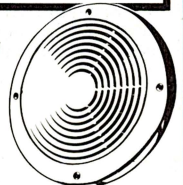
If it's performance you want, this 57mm mini speaker has it — in fact we found that it offered more performance than speakers up to 75mm in diameter! Nominal impedance of 8 ohms makes it ideal for many purposes. Cat C-2222



\$2.50
10 up \$2.25

Economy Grille

Here's a high impact, 200mm plastic grille that has thousands of uses! If you want to place speakers into the wall or ceiling of your home then this grille makes an ideal cover. Also ideal on boats and in vehicles. Has four screw hole fitting points. Cat C-2646



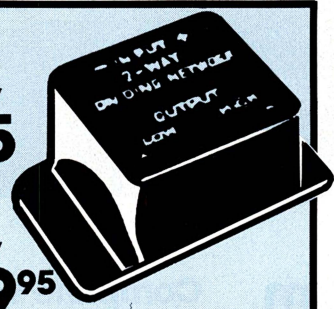
\$3.25
10 up \$2.95

Crossover Networks

Impedance of 8 ohms and a crossover frequency of approximately 3KHz. The special inductor/capacitor circuit ensures good crossover characteristics. Can be used in your own designs for a 2-way speaker system. Cat C-2512

As used in the Playmaster 3/70L, 3/53L and 3/26L speaker systems. Has 8 ohm impedance. Two inductor network with non-polarised capacitors. Crossover frequencies of 1.5KHz and 5KHz plus high power handling capacity. Cat C-2513

Shipping weight: 418g
Shipping size: 210 x 210 x 55mm



2-way
\$15

3-way
\$19.95

Hi Power L-Pad

Ideal for controller higher power speaker placed outside (eg for the BBQ or in a large play room). Can be mounted on a remote panel or in the speaker cabinet. Complete with instructions. Ideal for tweeter control. Cat C-7204

• Constant impedance • 15w continuous - 30 peak
• Mono use 8 ohms impedance

\$9.95



Stereo L-Pad

Controls audio level (attenuation 30dB to 0.5dB) while maintaining constant impedance matching between amplifier and remote speakers. Panel or speaker enclosure mounting. Medium power rating into 8 ohms. Complete with instructions. Cat C-7205

\$17.95



Reflex Horn

Large 127 x 200mm rectangular horn with huge 15 watts rating. Complete with mounting bracket, ideal for hanging under eaves etc for maximum sound dispersion. Use in conjunction with any alarm controller offering 'speaker' output (ie any alarm controller with inbuilt siren oscillator). Alternatively use with our L-5115 electronic siren driver when operated from an alarm 'relay' output. 8 ohms impedance. Cat C-2718

\$34.95



Horn Speaker

Smaller version of C-2718 speaker, designed for use inside a horn speaker cover for maximum security installations. Plastic grille means all-weather (under shelter!) operation and horn construction means incredibly high output compared to conventional speakers. 8 ohm impedance, 10 watts rating. As above, use with speaker output on alarm or optional siren driver. Cat C-2705

\$13.95

Speaker Box Lining

Innerbond is light, clean, dust-free and easy to handle. Fibre bonding ensures that this cellulose acetate insulation will remain resilient and not fracture or break down due to vibration. Weighs approximately 300 grams/sq. metre and is 25mm thick by 700mm wide — this is recommended density for most speaker usage. Cat C-2662



\$4.95
per metre
20m or more \$3.50m

Mini Marine Hi Fi

Amazing sound from these Arista heavy-weights! Designed for use around moisture which makes them ideal for the boat, outdoor patio area (under cover), around the pool... anywhere!

Robust, rust resistant alloy case with recessed captive connectors and metal grille cover. Features 10.2cm polypropylene air suspension woofer, 25mm soft dome tweeter, 8 ohm impedance, freq. resp: 20-20,000Hz and a maximum power rating of 50 watts. Comes with mounting bracket. Cat C-2251

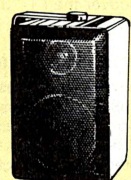
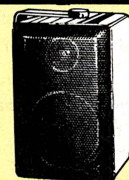
\$189

Shipping Size: 270 x 237 x 165mm Compact Size: 115(W) x 185(H) x 112(D)mm!

2-Way Mini Speakers

More quality speakers intended for indoor use from Arista. Same heavy duty case and outstanding performance as C-2251 but this one uses a 100mm honeycomb woofer with a 10oz magnet. With soft dome tweeter and a freq. resp. in the 60Hz — 20KHz range. A power rating of 30 watts RMS gives them plenty of punch!

They're small enough to carry from room to room and you can mount the quick release bracket (supplied) where you most often use them! Cat C-2252



\$145

A M A T E U R R A D I O



HF on a Budget Yaesu's New FT747GX

Budget: Yes! Low Performance: No! Yaesu's new FT747GX is designed to give the amateur the best of both worlds...

It's probably the lightest 100W HF transceiver ever produced. At just 3.3kg and a tiny 238 x 93 x 238mm, that also makes it a great contender for mobile use.

A clear, unobstructed display and control layout make this a real joy to use. Unlike the "super rigs" around today, it has just 15 push button controls — including the on/off switch, and two dual pots for level controls.

All this in an all HF band (160 through 10 including WARC), all mode (FM optional) 100 watt (PEP, AM 25W) powerhouse that makes it perfect first transceiver for the novice right through to the advanced amateur wanting to pack the most performance into the dollar! Cat D-2930

Specifications:

Transmitter —

All amateur bands between 1.5 and 30MHz
LSB, USB (J3E), CW (A1A), AM (A3E) & optional FM (F3E)
100 Watts output (PEP/DC < SSB/CW/FM)
25 Watts carrier output (AM)
Spurious — < -50dB harmonic, < -40dB non-harmonic
SSB Suppression — Carrier < 40dB, unwanted sideband < 50dB

Receiver —

100kHz to 29.9999MHz continuous
Conversion: CW,SSB,AM double conversion, FM triple conv.
Sensitivity (10dB S+N/N, >1.5MHz) 0.25uV SSB/CW, 1.0uV AM
Selectivity (SSB, CW/N, AM/N, -6, -60dB) — 2.2/5kHz
Image rejection — >70dB 1.5 - 30MHz
IF rejection — >60dB 1.5 - 30MHz

ALL THIS
FOR ONLY **\$1395**

A worthy successor to the
726 . . .

Yaesu's New 4 Bander FT-736R



**6m — 2m — 70cm — 26cm
In one amazing transceiver**

Complete with 2m
and 70cm modules: **\$3495**

Why just dream of talking beyond Earth? With the new Yaesu FT-736R VHF/UHF, you can discover some of the best DX happening — on moonbounce. Tropo. Aurora. Meteor Scatter. Or satellites.

The FT-736R is the most complete, feature-packed rig ever designed for the serious VHF/UHF operator. But you'd expect this of the successor to the legendary FT-726R.

For starters, it comes equipped with SSB, CW & FM operation for 2m and 70cm (430 to 450MHz!) with two additional slots for optional 6m or 23cm modules.

Crossbanding is built in. Satellite tracking (normal and reverse modes) keeps you on target through a transponder. You get 25 Watts output on 2m & 70cm, 10 Watts on 6m and 23cm. 100 memories let you store shifts, frequency, mode, etc in each.

Discover the FT-736R today. But first make sure your shack has plenty of room for exocytic QSL's! Cat D-2920

- All modes on all four VHF/UHF bands - 6m, 2m, 70cm, 26cm (with all modules installed)
- Full duplex crossbanding
- Up to 25W output
- Dual VFO's plus 100 memories
- Inbuilt RF Speech Processor, IF shift and IF notch filters, CW and FM wide/narrow IF filters, VOX, Noise Blanker, 3-stage AGC

Add-on modules:

6m Module:

Full 50 to 53.9988MHz coverage with 0.15uV receiver sensitivity (SSB, 13dB S+N/N), 10W transmitter output. Cat D-2921

\$599

26cm Module:

At last! 1.2 gigs accessible to the average amateur! 1240 to 1300MHz coverage, 10W output. Cat D-2922

\$999

Note: The FT-736R and its associated modules are not normal stock lines in most DSE stores. Normally held in one store in each capital city, or available within 3 days from warehouse.

A M A T E U R R A D I O

Here it is: Yaesu's FT767GX

All mode all band
all singing
all dancing all all!

What are you looking for in an amateur transceiver? The absolute very latest technology that is available? Every possible feature to drag that signal in where others cannot... or to make sure yours is the one heard through the QRM? How about all modes on all amateur bands? Or a continuous coverage triple conversion superhet receiver from DC to light (well, almost)? An automatic antenna tuner built in? Die-cast aluminium & ducted cooling giving 30 minutes output at full power? The incredible new FT767GX is all this and more — much, much more. It's the most complete amateur station available anywhere. In any brand. At any price. **Because the FT767 goes where others cannot. As well as the complete HF transceiver, it is also the complete VHF & UHF transceiver — the 767 covers every amateur band from 160 metres to 70 centimetres!!!** That's right — 1.8 to 440MHz in one transceiver. Crossbanding? Now you're really talking — to the world. And because it's the new generation of transceivers, it's made to suit packet. Yes, the FT767GX is the most expensive transceiver Yaesu have ever produced. But once you've seen it, you'll agree — it's worth every cent! Cat D-2935

Brief Specifications:

Receiver: 100kHz to 29.9999MHz, 50 to 53.999, 144 to 147.999, 430 to 439.999MHz*

Transmitter: All WARC bands to 30MHz, VHF & UHF as above

Emission: J3E, A1A, J1B, A3E, F3E

Output: 100W (AM 25W carrier) on HF, 10W (2.5W AM) VHF & UHF

Antenna Imp: 20-100 ohms HF (nominal 50 ohms), 50 ohms UHF/VHF

Harmonics: <-50dB HF, <-60dB VHF/UHF

Carrier Suppression (SSB): <-40dB

3rd order IMD (vs single tone, 100WPEP, 14MHz): <-35dB

Image and IF rejection: <70dB

Sensitivity: 0.25uV (SSB/CW/FSK, 1.5-450MHz, 10dB)



\$4995



The New Generation FT757GX "II" HF All Mode Computer Aided Transceiver

There's only one thing better than the FT757GX — and that's the amazing FT757GX II! Combining all the finest features of its predecessor with new advances in digital control which allow far greater versatility and operator convenience on ALL modes and ALL hf amateur bands.

There's no need for options... it's all built in! AM & FM modes, 600Hz narrow CW filter, iambic keyer, 25kHz marker generator, IF shift & notch filters, triple conversion receiver covers full 0.15 to 30MHz, effective noise blanker and AF speech processor. As well you'll get...

Cat D-3492

New digital features —

- 10 memory channels (stores mode & frequency!)
- Improved CAT (computer) interface allows simplified programming and greater control
- Programmable memory scanning
- Auto-resume loop scanning between dual VFOs
- Full duty cycle (100W DC output 100% transmitter duty cycle)
- High performance receiver (>100dB dynamic range in CW/N)

Specifications:

Coverage: TX 10, 12, 15, 17, 20, 30, 80 & 160 metre bands; RX 0.15-30MHz

Tuning Steps: 10Hz & 500kHz

Emission Types: LSB, USB, CW, AM & FM

Carrier Suppression: Better than 40dB below peak o/p

Spurious Suppression: Better than 50dB below peak o/p

3rd Order IM Distortion: Better than -35dB below peak o/p (14MHz, 100W)

Rx Sensitivity: (1.5-30MHz): 10dB S+N/N) SSB, CW-W, FSK-0.25uV,

CW-N 0.16uV, AM 1.0uV, FM 0.6uV for 12dB Sinad)

Image Rejection: Better than 70dB

\$1995

1.2kW... SOLID STATE! Yaesu's new FL-7000 Linear Amplifier

The one you've been waiting for: a fully solid state HF linear amplifier with a massive 1200W PEP (SSB) 1200W DC (CW/FSK) input — and that's rated at 30 minutes continuous on SSB! It needs less than 100W drive for full output, with spurious less than -50dB and 3rd order IMD less than -25dB. More than that, it also includes an automatic antenna tuner (range 16 to 150 ohms) so you won't cook anything with a poor match! Perfectly matches the new FT767GX, or the FT757GX, or just about any HF transmitter/transceiver you care to put on it (even those other brands!). Cat D-2549

- Covers all WARC bands to 30MHz
- Size 390 x 1130 x 400mm
- Weight 30kg (also doubles as a great paperweight!)

\$4299



Heavy Duty Power Supply

The FP757HD

...HD... Heavy duty — just what the avid dx'er wants. A supply that won't let you down when you have those long sessions straight to the 757, also suitable for other 12V systems. Rated at a superb 13.8V, 20A continuous (30 mins max) as rx). Total saving big chew! Cat D-2945

Shipping Weight: 6.5kg

Shipping Size: 100 x 310 x 100mm



Automatic Antenna Coupler FC757AT

This amazing coupler actually has its own 4 bit microprocessor to allow fast, accurate automatic impedance matching. Not only that, but it has an automatic SWR meter AND an inbuilt inline RF wattmeter! It remembers which antenna you've selected along with the settings of the matching network so when you go back to that band, everything is done for you: instantly. And if antenna conditions change while you're using it — it adjusts for you. Can also be operated manually. Cat D-2942



\$899

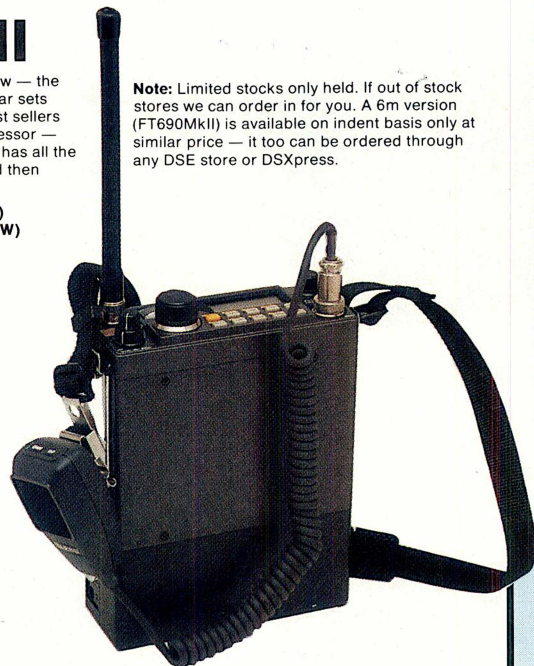
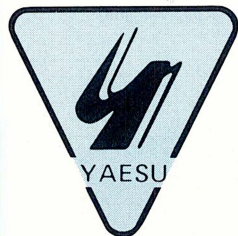
A M A T E U R R A D I O

FR290MkII

Yaesu had a pretty hard act to follow — the FT290R was one of the most popular sets we've ever sold (and one of the best sellers around the world). Here's the successor — and what a beauty! The FT290MkII has all the features of the "old" FT290R — and then some! Cat D-2875

- ALL mode (LSB, USB, CW & FM)
- 2.5W output (switchable to 250mW)
- Standard or NiCad batteries
- 10 memories
- Twin VFO's
- And much, much more!

\$949



Note: Limited stocks only held. If out of stock stores we can order in for you. A 6m version (FT690MkII) is available on indent basis only at similar price — it too can be ordered through any DSE store or DSXpress.

Push Button 70cm FT-709R

All of those who do want all the bells and whistles...

... you can't go past the FT709R! Absolutely the serious UHF'er could ever want! For a start, 10 memories to store your favourite repeaters and 400 memory channels (covers the full 10MHz 430-440MHz band) with selective scan, scan skip scan, or even scan... bar! And in other fun features (your set) limits. Yaesu's unique Power Save System: programmable receiver activation to check a selected frequency. Battery lasts for much longer! Add your choice of FNB-10 (10.8V, 425mAh) for 2.7W out or the FNB-11 (12.5V, 500mAh) for 3.5W out, standard cells (1.2V out) or even NiCads. (The FT-709R operates from 6 to 15V, so the latitude is there!)

- Full 10MHz coverage
- Microprocessor controlled
- 10 memories, up to 3.7W out
- Complete with soft carry case, rubber duckie antenna

Cat D-3509

\$629

NB: Not supplied with batteries.



2M Mobile FT-211RH

Not just one, but two microprocessors to do everything for you except make coffee (they're working on that one!) That's the new FT-270RH mobile 2m. Absolutely the latest word in flexibility and performance — including 45 watts output! With 10 memories, dual VFO's and incredible scanning facilities, you're ready to take on the two meter pile-up; and win! And this is packed into just 140 x 162 x 40mm: small enough to go anywhere! Features high/low power output (45/5W) so it's just right for the city or the bush! Cat D-3517



\$799

It's like having two transceivers in one...

Yaesu's 2m/70cm FT-2700RH

2 metres and 70 centimetres — in one compact transceiver! The FT-2700RH is excellent value for the increasing number of amateurs who like to transfer from one band to the other. It's as simple to operate as it is enjoyable to listen to! Instead of buying two transceivers, you only need the ONE that offers the two bands. The FT-2700RH is a superbly designed unit with a host of impressive features. Enjoy Yaesu's renowned programmable memory scan, 10 memory channels. Priority scan. Dual independent front ends, local synthesizers, IFs and transmitter RF stages. Full duplex crossbanding — it's more child's play. More and more amateurs are adopting the adage: that 'two bands are better than one'! Cat D-3515

- 25 watts continuous on both bands
- Two 4-bit CPUs for complete control
- Wide angle LCD display
- Includes scanning microphone and mobile mounting bracket.

Amazing amateur value at only...

\$1299

Tiny on size — huge on performance

Yaesu's Hand-Helds

Small enough to fit in the pocket, the glove box, the brief case... big on features and power. Just 60 x 150 x 30mm (including battery)! Yet these hand-helds pack all the performance of their monstrous predecessors — and more... Fully microprocessor controlled, 10 memories, repeater splits, scanning (busy/memory/priority), 6 digit LCD display, up to 5 watts output (with 12V supply)... the amazing features of these mini marvels goes on and on.

70 centimetre: FT73

Covers 430 to 440MHz (440 to 450MHz available on special order "indent" basis). 2.0W output from FNB-10 battery supplied. Cat D-3495

\$539

2 metre: FT23

Full 144 to 148MHz band coverage. Supplied with FNB-10 NiCad battery giving 2.5W output, plus mini rubber duckie antenna. Optional FNB-11 12V battery available soon. Cat D-3490

\$499



2 position

Coaxial Switch

At last! A really high quality coaxial switch suitable for all HF, VHF and UHF (900MHz) uses. Made by Welz in Japan, it offers the serious amateur better isolation, lower insertion loss and better performance than most other switches on the market. Cat D-5208

- Specifications:**
- Impedance: 50 ohms
 - Frequency: DC-900MHz
 - Insertion Loss: Less than 0.1dB
 - Isolation: Better than 50dB
 - SWR: Better than 1.15
 - Power rating: 1kW (Cont) Maximum



\$69⁹⁵

Hand-Held Whip Antenna UHF CB

Flexible 1/2 wave ground independent antenna with BNC fitting to suit UHF CB hand-held. Cat D-4208

As above, 430MHz amateur. Cat D-4335 **\$24⁹⁵**

VHF Amateur

Flexible replacement "rubber duck" antenna for 2m hand-helds. Cat D-4330

\$17⁹⁵

A M A T E U R R A D I O

VHF/UHF Universal Antenna Kit: Whip, coax and base

No more wondering 'which one to buy?': this one does the lot! And everything you need is supplied:

- Quality stainless steel 520mm whip, complete with cutting chart, suitable for mid VHF band (about 120MHz) up
- 5/16", 26TPI coaxially fed antenna base (intended for UHF work — even better at VHF!) which fits gutter gripper base perfectly.
- 2 metres UHF quality RG58C/U coaxial cable
- PL-259 UHF connector (as used on most transceivers).

All this makes the perfect solution to your mobile antenna problems, whether they're amateur, UHF CB or commercial radio. Complete kit. Cat D4025

\$19⁹⁵

Egg Insulators

Small insulator, unbreakable nylon construction. Ideal for smaller antenna installations. Cat D5300

\$1²⁵

Medium size — made of the same material, but will handle much larger installations: eg for extra long arrays or guy wires. Cat D-5302

\$2⁵⁰

Folded J 2M Vertical

Every amateur has heard of the Slim Jim. Many have made their own! Now there's no need — our J Pole is so low in price you probably couldn't make it (not as well, anyway!) Covers full 2m band with VSWR <1.2:1, power rating 500W. Cat D-4211

\$36⁹⁵

HF System

A range of HF antennas made for Australian conditions. Just fit the base — and place the whip on according to the band you're on. All whips are approximately 2m long, appropriately loaded, and feature adjustable tuning.

80m Cat D-4310 **\$44.95**
40m Cat D-4311 **\$39.95**
20m Cat D-4312 **\$34.95**

Base to suit:
Standard 5/16" 26TPI to suit above whips. Cat D-4313 **\$14.95**

Novice Course

For the person wishing to enter the hobby of Amateur Radio this is an easy to follow first instruction. Complete with Morse tape which gives you full novice standard. Cat D-7110

Shipping Weight: 250g
Shipping size:
280 x 205 x 20mm



\$12⁹⁵

RF Balun Kit

Contains a large, quality balun core (50.8 diam.) with a quantity of heavy gauge wire, suitable for up to 1kW. Full instructions supplied. Can be used for a number of antenna types up to 30MHz. Can also be used for RFI suppression, from amateur and CB Gear into audio amplifiers. If the speaker leads are wound through the core (as many turns as will fit) the core stops RF energy entering the amplifier in this way. Cat D-5350



\$18⁹⁵

Shipping Weight: 165g
Shipping Size:
140 x 100 x 15mm

Morse Economy Key

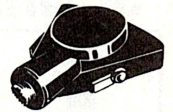
Ideal for practice, just the shot for a youngster wanting to learn Morse. Great with our Morse Code Oscillator project in the FunWay series! Cat D-7105



\$5⁹⁵

RAK BL-50A Balun

'T' shape design for use as a centre support for dipoles or yagi antenna. Input 52 ohms balanced. Output 52 ohms unbalanced. RF input power 1kW with an insertion loss of less than 1dB. Frequency range entire HF band (1.8 to 30MHz). Cat D-5310



Shipping Weight: 139g
Shipping Size:
100 x 75 x 25mm

\$59⁹⁵

Mounting Clips

Magnetic: Cure a dangerous dangling microphone with this clip. It attaches to the rear of most hand-held microphones. A strong magnet holds the microphone securely in place to any ferrous surface. Cat C-1260

Shipping Weight: 40g
Shipping Size:
40 x 35 x 20mm

\$2⁹⁵



Screw-in: A simpler type clip, can be screwed to any convenient location — the mic is held securely by a spring in the clip. Complete with mounting screws. Cat C-1262

Shipping Weight: 15g
Shipping Size: 50 x 25 x 10mm

\$1⁵⁰



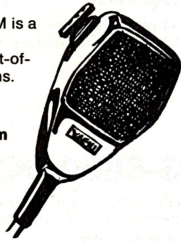
MICROPHONES

Noise Cancelling Mic

Hand-held model where high QRM is a problem. Fitted with 8 pin plug, eliminates or reduces noise by out-of-phase inserts. Impedance 500 ohms. Cat C-1115

Shipping Weight: 190g
Shipping Size: 230 x 100 x 75mm

\$49⁹⁵

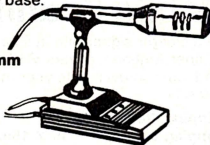


Desk Mic

Superbly elegant desk mic to really set off your station. Locking PTT, up-down scanning buttons plus removable base. Impedance 500 ohms. Cat C-1114

Shipping Weight: 850g
Shipping Size: 240 x 140 x 110mm

\$199

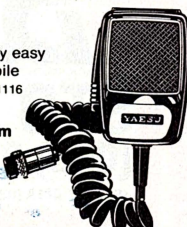


Hand-Held Scan Mic

Suits all Yaesu transceivers with scanning function. 8 pin plug, very easy to hold for long period. Ideal mobile mic. Impedance 500 ohms. Cat C-1116

Shipping Weight: 165g
Shipping Size: 213 x 100 x 50mm

\$56⁹⁵



The above microphones all suit Yaesu transceivers shown on these pages, plus older types with 8 pin plug such as FT-ONE, FT-707, FT-107, FT-480, etc.

Universal Dynamic Mic

Designed especially for AM and SSB transceivers. This economical mic is supplied with a 5-wire (4 lead plus shield) 2 metre lead that can be adapted to any transceiver — even ones with electronic switching! Has a nominal 600 ohms impedance, can be re-wired with internal transformer for 50k. Supplied with a standard 4 pin socket. Cat C-1102

Shipping Weight: 125g
Shipping Size:
120 x 105 x 25mm

\$24⁹⁵

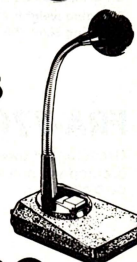


YD148 Desk Mic

Smart styling, great performance. Dual impedance to suit many rigs. (500 ohms and 50k). Cat C-1118

Shipping Weight: 666g
Shipping Size: 285 x 165 x 90mm

\$99



Noise Cancelling Mic

Ideal for the amateur or CB'er. Noise cancelling is achieved by use of twin out-of-phase inserts. Fitted with a high quality PTT switch and coiled lead. Impedance is 250-600 ohms with a frequency response of 300-5000Hz. Cat C-1105

Shipping Weight: 150g
Shipping Size: 145 x 80 x 50mm

\$34⁹⁵



MH-12A2B Speaker Mic

Designed for the FT203, 209, 703 and 709 hand-helds. Allows greater flexibility (eg vehicle operation) with both mic and speaker in one. 3.5/2.5mm plugs. Cat C-1112

Shipping Weight: 130g
Shipping Size: 110 x 100 x 50mm

\$62⁹⁵

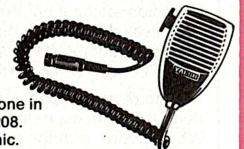


Yaesu YM24A Speaker Mic

8 ohm speaker and 2k microphone in one. 6 pin plug suits FT207/FT208. Mounting bracket attached to mic. Cat C-1111

Shipping Weight: 125g
Shipping Size: 140 x 70 x 80mm

\$64⁹⁵

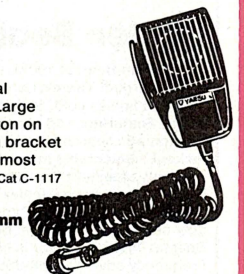


Yaesu YE-7A

600 ohm microphone for general purpose communications use. Large PTT bar for such switching, button on mic matches screw-in mounting bracket (supplied). 4 pin plug also suits most CB's — particularly older style. Cat C-1117

Shipping Weight: 166g
Shipping Size: 160 x 100 x 80mm

\$28⁹⁵

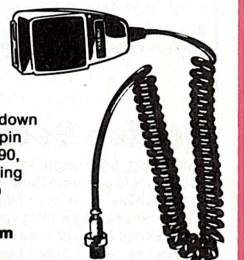


Yaesu YM49 speaker Mic

As above, but also includes up/down button plug lock for scanning 7 pin older-style line socket suits FT290, FT690, etc. Also includes matching screw-on dash bracket. Cat C-1110

Shipping Weight: 250g
Shipping Size: 210 x 95 x 60mm

\$54⁹⁵



COMMUNICATIONS

Bearcat Scanners



The World's Most Exciting Hobby

Hundreds of thousands of people world wide have been turned on to the fun, the excitement and the challenge of scanning! Why not try it yourself?

Listen to the world — not commercial radio and television stations but the hundreds of groups and organisations that use the air waves for communications. And it's the kind of hobby that needn't cost you the earth!

Easy to start, inexpensive to continue and there's no need for licences, training courses or qualifications. What's more, with the great range of portable scanners you can take your hobby anywhere! Come in and talk to our experienced staff for expert advice — it could be the best thing you've ever done for yourself.

Uniden Bearcat 100XL

The Uniden Bearcat 100XL scanner would do any avid radio listener proud! There's hardly anything it won't do — except keep the tinnies cold. Still, it's easier to listen to than the fridge. **Featuring:** • 16 channels • 9 band coverage • Automatic search • Selective scan delay • Automatic lockout • Selectable manual search • Direct channel access • Priority channel • Track tuning • Crystal free • Display light • Battery low indicator • Custom antenna.... and that's not all! Comes with 6 NiCad batteries (installed) and a heavy duty carry case which can be clipped onto a belt. The Bearcat 100XL Scanner is heaps more fun than a fridge! Frequency coverage: 66-88MHz, 118-135.975MHz, 136-174MHz, 406-512MHz. Cat D-2813

Optional M-9526 plug pack available for power/charging.

Shipping weight: 900g
Shipping size: 335 x 255 x 85mm

\$399

Uniden Bearcat 50XL

A compact, lightweight Hand-Held Scanner packed with features and sporting famous Uniden reliability! You won't believe these features: • Fully programmable • 10 channels • 10 band coverage • Crystal free • Custom antenna • Automatic lockout • Manual or auto select • Large LCD channel readout • Track tuning • Direct channel access. Plus battery or external DC operation! Comes complete with belt clip and full instruction manual. **Frequency coverage:** 29-54MHz, 136-174MHz, 406-512MHz. Cat D-2814

Shipping weight: 440g
Shipping size: 215 x 125 x 75mm

\$199

LIMITED STOCKS

All band, all mode general coverage receiver — FRG-8800



Here it is: the receiver everyone's been waiting for. It's the brilliant FRG-8800 from Yaesu — the world's leading manufacturer of amateur radio equipment. With specifications to more than match its outstanding looks, the FRG-8800 is a worthy successor to the rest of the 'frog' series. But this one has more: much more: 10 memories inbuilt — nothing extra to buy (they even remember the mode and filter!) And digital frequency entry as well as standard knob tuning. Provision for a VHF converter inside the receiver. CAT control capability. And much, much more. Ask for a copy of the free FRG-8800 colour brochure.

- All mode/selectable IF & BW
- Multi scanner
- 8 bit microprocessor
- S/SINPO graphic indicator
- Dual 24-hour clock
- CAT system computer control
- Wide-band VHF option



Two models to choose from:

FRG-8800 HF \$1445

150kHz to 30MHz

Cat D-2820

Shipping weight: 6.8kg
Shipping size: 400 x 370 x 210mm

FRG-8800 SW \$1395

2MHz to 30MHz

Cat D-2821

Shipping weight: 6.6kg
Shipping size: 400 x 370 x 210mm

FRV-8800 VHF Frequency Converter

Fits right inside case — complete with its own telescopic antenna. Frequency range 118-147MHz. Cat D-2823

Shipping weight: 769g
Shipping size: 165 x 65 x 225mm

\$299

FRT-7700 Antenna Coupler

Ensures best performance from all types of antennas. A must if your antenna is not low impedance. Cat D-2843

\$159⁹⁵

FRA-7700 Active Antenna

Great for flat dwellers! No need for an outside antenna and preamp will pull in stations you didn't think possible! Cat D-2845

\$159⁹⁵

FRG-8800 DC Kit

Allows operation of your FRG-8800 on 12V DC. Great for field operation, monitoring, etc. Cat D-2822

Shipping weight: 108g
Shipping size: 120 x 40 x 65mm

\$9⁹⁵

Hear more... hear better

Helical Dipole Scanner Antenna

Now there's no excuse not to hear everything on your scanner — not when you have this scanner antenna. Designed by a scanner expert especially to suit the bandwidth of today's scanner, it features performance approximately equal to a quarter wave in free space. Covers all major scanner bands — 70 to 174 and 400 to 500MHz, with easy mounting via the eye hook (or if you prefer, can be mounted on mast with 50 or 75mm stainless steel hose clamps). Overall length is 155mm, and it weighs just 1.5kg. Fitted with 3.5m cable, terminated in standard car-radio type coax plug (as used by 99% of scanners). Cat D-4432

Get the most from your scanner!

\$39⁹⁵

Mobile Scanner Antenna

Get a clearer signal with this bargain priced Mobile Scanner Antenna. covers VHF hi/lo aircraft and UHF band! Just screw it onto your mobile antenna base. Cat D-4434

Shipping Weight: 90g
Shipping Size: 770 x 15 x 15mm

\$14⁹⁵

DSX PRESS
DICK SMITH ELECTRONICS EXPRESS ORDER SERVICE

STD FREE
(008) 22 6610
(SYDNEY AREA (02) CALL 888 2105)

Yaesu FRG-9600

All Mode VHF/UHF
Receiver



To call this receiver impressive would be the understatement of the decade... if not the century! There are more features, more listening capabilities packed into this receiver than would have been dreamed possible just a few short years ago!

The FRG-9600 is a scanning receiver capable of covering the complete 60 to 905MHz VHF/UHF spectrum. But even more than that, the FRG-9600 is **all mode** — FM, AM, CB, SSB... the lot. At the touch of a button, it opens up an exciting world of communication: FM-wide for standard FM and TV station sound transmissions. FM-Narrow is your passport to the arena of two-way communication — emergency services, business, military and amateur radio. Other amateur bands plus aircraft bands are accessible through the AM and SSB modes (SSB covers up to 460MHz).

An impressive array of features

All the controls and functions that make listening a pleasure. Your choice of keypad frequency entry or

tuning dial. Advanced selectable scanning functions which allow a variety of scanning types: busy, clear, audio scan (avoids 'carrier only' channels), specific band scanning, memory scanning... and so much more.

And computer control if you want it!

Full external computer control is possible using Yaesu's CAT (Computer Aided Transceiver) interface. Multiple memory banks, automatic tuning, customised scanning, searching... if your game is serious listening, then this is what you've been looking for!

Outstanding specifications

Take a look at the specifications panel. You'll agree it offers absolutely outstanding performance.

Expensive?

Of course, the FRG-9600 doesn't come cheap. Or does it? Think, for a moment, of all that the FRG-9600 replaces. Everything right there inside one package. In fact, the technology is so advanced that money probably couldn't have bought it until very recently! Cat D-2825

Shipping Weight: 3.7kg Shipping Size: 405 x 145 x 250

Specifications:	
Frequency:	60-905MHz (up to 460MHz for SSB)
Modes:	FM Narrow (15kHz BW); FM Wide (180kHz BW); AM Narrow (2.4kHz BW); AM Wide (6kHz BW); SSB (2.4kHz BW)
Conversion:	Triple (FM-N, AM, SSB); Double (FM-W); Single (Optional Video)
IFs:	45.754, 10.7MHz and 466kHz
Image rejection:	60-460MHz -50dB typical; 460-905MHz -40dB typical
Sensitivity (typ):	FM-N 0.5uV (for 12dB SINAD); FM-W 1.0uV (for 12dB SINAD); AM-N 1.0uV (for 10dB S+N/N); AM-W 1.5uV (for 10dB S+N/N); SSB 1.0uV (for 15dB S+N/N)
Tuning steps:	FM-N* 5/10/12.5/25kHz; FM-W 100kHz; AM-N 100Hz/1kHz; AM-W* 5/10/12.5/25kHz; SSB 100Hz/1kHz. * Selected steps show on display
Memories:	100
Audio output:	1W (into 8 ohms <10% THD)
Voltage:	DC 12-15V

BEWARE OF IMITATIONS

There is only one Yaesu FRG-9600. Some unscrupulous traders have been passing off foreign models (with a different type number) as the FRG-9600. The genuine FRG-9600 is only available from the factory authorised Yaesu agents in Australia.
Dick Smith Electronics.

\$1199

10 Band Portable Radio

Here's a great little 10 band portable at a fantastic value for money price! At 160 x 76 x 28mm it's small enough to carry with you to the beach, football, work — anywhere! With AM/FM, 8 shortwave bands built-in antenna, carry cord, slide band selectors and much more! Superb sound reproduction and quality construction makes this the ideal portable. Has phones and DC adaptor sockets and comes with it's own soft carry case. Runs on 3 AA size batteries. Cat D-2834

Shortwave:

- | | |
|-----------------|-------------------|
| 1. 2.30-5.20MHz | 5. 11.55-12.05MHz |
| 2. 5.80-6.20MHz | 6. 15.05-15.55MHz |
| 3. 7.05-7.50MHz | 7. 17.45-18.05MHz |
| 4. 9.45-9.90MHz | 8. 21.45-21.95MHz |

Frequency range:
MW: 78-108MHz
FM: 522-1620kHz

Shipping Weight: 572g
Shipping Size: 215 x 70 x 136mm

\$89



Direction Finder Radio

With AM/FM/CB/SW/SSB

Top value for the avid radio listener — or the boat owner who wants to know just where he is! This quality radio receiver has a built-in radio direction finder to pinpoint your position against AM radio stations. Plus you get 6 bands including all 40 CB channels plus shortwave AND VHF! Operates from either mains or batteries (not included) and can even double as a PA amplifier with optional microphone! You also get not just one, but two different manuals — including a full SW listening guide. Cat D-2832

- AM Broadcast Band
- FM Broadcast Band
- CB Band (26.94-27.45MHz)
- VHF Bands (59-218MHz)
- Shortwave Bands (3.9-12.5MHz)

Shipping Weight: 3.9kg
Shipping Size: 405 x 170 x 303

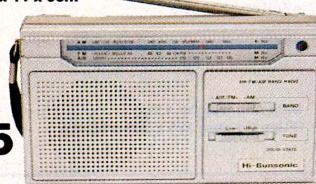


\$149

Air Band VHF Radio & AM/FM

You've probably wondered what goes on, what pilots and air traffic controllers talk to each other about... Wonder no more! This budget aircraft band radio tunes the entire band, so you don't miss a thing. It also covers the normal AM broadcast band too, so you won't miss out there either! Operates from 4 penlight batteries (supplied) with telescopic whip antenna for aircraft band and internal ferrite rod for broadcast band. Cat D-2836

Specifications:	
Ranges:	530-1600kHz; and 108-174MHz
IF:	455kHz and 10.7MHz
Output power:	450mW max
Speaker:	6.4cm
Power source:	6V DC (4 penlight cells)
Circuitry:	10 transistors and 7 diodes
Size:	22 x 11 x 5cm



\$29.95

Lowest priced SSB CB in Australia?

AM/SSB CB under \$250!

Australia's lowest priced full-feature AM/SSB CB? We're sure you won't find better value — anywhere! With maximum legal power, full 40 channels and the extra range and performance that SSB gives, this is the ideal CB for the truckie, the car driver — even the home base with optional power supply. It's fully approved, fully licensable (not like some "bargain" CB's being flogged around!) Cat D-1713

Features:

- Very simple to operate
- Maximum legal power on AM and SSB
- Fully guaranteed (12 months extended guarantee)
- State-of-the-art circuitry with advanced specifications
- Complete with microphone, mounting hardware and instructions.

Shipping weight: 2kg

Shipping size: 345 x 215 x 75mm

DOC Approval No. 2440040

PEARCE-SIMPSON

\$249



Ideal beginner's CB... Economy AM

If you don't need all the bells and whistles, this is the CB you want! Great for the beginner, also ideal for communication links on, say, farms, rural businesses, etc. Intended for mobile use (mounting hardware included), also usable as base station with optional power supply. Cat D-1450

- Space saving: just 160 x 44 x 122mm • Full 40 channels • Maximum legal power • Built-in noise limiter • Digital Channel readout and power/strength indicators • Just three controls: so simple!

Shipping weight: 1.8kg

Shipping size: 215 x 220 x 80mm

DOC Approval No. 249A0123

\$119



3W 3 Channel Transceiver

At this price, you can't
afford to be without one!

\$129

Medium power, medium price — but top performer! A new model, exclusive to Dick Smith Electronics, with a multitude of uses. Approved for CB use. Has one CB channel fitted in the channel one position. Other channels left open for your choices. Great for fishermen, too: keep in touch (just in case!). Cat D-1106

DOC Approval No. 249A072

Shipping weight: 920g

Shipping size: 350 x 95 x 90mm



Pocket Com II Walkie Talkie

This is THE transceiver for aspiring James Bonds or Dick Tracys in our community. Full 2-way transmission and a size that fits secretly into your pocket. A great gift for any child. Also ideal for the more serious user: a mother who wants to know what Johnny is doing in the backyard; for construction workers, etc. Buy a few and start a spy ring! Cat D-1101

Shipping weight: 137g

Shipping size: 250 x 120 x 30mm

\$15⁹⁵

No licence
required



Complies with DOC
specification RFME001

CUB: Deluxe AM

But if you DO want all the bells and whistles, try this one: the CUB from Pearce-Simpson. Full scanning facilities means you don't have to take your eyes off the road when listening for a signal: just push the button and the set scans up or down. And the Channel 9 switch allows instant access to the emergency channel — no matter which channel you're on. Also includes switchable ANL (automatic noise limiter) to reduce ignition and other pulse noise. Unit size is just 130mm wide, 35mm high and 180mm deep — perfect for today's compact cars. Cat D-1460 DOC Approval No. 249A0129

- Maximum legal power
- Full 40 channels
- LED readout
- Push-button channel selection
- Tiny size — fits mini car space!

Shipping weight: 1.7kg

Shipping size: 235 x 265 x 60mm

\$119

LIMITED STOCKS



Compact Pro Series CB

NEW FOR 88

Professional quality 40 channel CB from Uniden — the PRO510e! Compact, stylish design with a wealth of truly advanced features including ANL (automatic noise limiter), squelch control to help eliminate background noise, S/R meter, large LED channel display... the lot!

Measuring just 115(W) x 35(H) x 167(D)mm it fits easily in most modern vehicles and looks great against contemporary dashboard designs. Of course, the PRO510e comes with PTT mic, all mounting hardware and the reliability you expect from Uniden.

Specifications:
Channels: 40 AM
Frequency Range: 26.965 to 27.405MHz
Power Output (Trans.): 4 watts
Current Drain: TX; Full mod. 1.7A
IF Frequency: 1. 10.692MHz
2. 450KHz
Cat D-1108



\$129

The All NEW Series 2 Sundowner UHF CB

NEW FOR 88

Upholding its reputation as the best value UHF transceiver on the market today is the new Series 2 Sundowner from Uniden! Much more than your average mobile with many of the most advanced features available.

All 40 channels are available with features like duplex switch which allows operation via a repeater station, squelch for a clear signal, TX/RX indicators, S/R indicator, tone squelch switch and more. Beautifully constructed to give years of trouble free service it's the obvious choice for the serious CBER.

Specifications:
Channels: 40
Frequency Range: 476.425MHz to 477.400MHz
Repeater use (Ch1 to Ch8, TX only) 477.175MHz to 477.350MHz
Carrier Power: 5 Watts
Current Drain (Trans.): 1300mA
Current Drain at maximum output (receiver): 800mA
Jacks & Connectors: Mic, Extn Speaker, DC Power Size: 150(W) x 50(H) x 190(D)mm
Cat D-1803



\$399

Get The Range! AM SSB CB

NEW FOR 88

Ideal as a mobile or as a base station! Superb quality and value make the AX144 from Uniden one of the best value AM SSB CBs around. Of course, it has the Uniden quality and reliability built-in, but it also has much more...

All 40 channels on AM, USB & LSB, maximum legal power — PLUS the extra range SSB offers! With PA capability, automatic gain control, effective squelch and automatic noise limiter, LED mode indicators, emergency Ch9 switch, etc, etc. Fully approved and fully licensable.



Specifications:
Channels: 40 AM, LSB & USB
Frequency Range: 26.956 to 27.405MHz
Transmitter Output Power: AM. 4 Watts
SSB. 12 Watts PEP
Sensitivity (Receiver): SSB: Better than .25uV for 10dB (S+N)/N at >.5W of audio output
AM: Better than .5uV for 10dB (S+N)/N at >.5W of audio output
Cat D-1130

\$299

UHF HAND-HELD SEE PAGE 79.

Accessories Lightweight Spring

Designed to suit standard loaded 1/4 wave mobile whips, to give the type of flexibility required in today's low car parks! Cat D-4500



\$9.95

Male Thread Antenna Adaptor

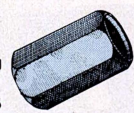
USA 3/8" x 24 tpi male thread to Australian female socket. Used for connecting USA 3/8" x 24 tpi base with Scalar or similar antennas. Cat D-4505



99c

Female Thread Antenna Adaptor

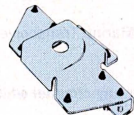
The standard Australian Female thread to 9.5mm x 24 tpi female, used for connecting Scalar or similar base to any of our antenna or accessories with 9.5mm x 24 tpi mounting. Cat D-4504



\$2.95

Boot Mount

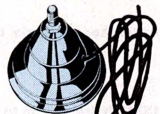
Stainless steel boot/bonnet mount grips around lip o boot with non-scratch bumpers to protect door. Ideal for company cars! Suits most antenna types (not the big'uns) Cat D-4515



\$29.95

Magna-base Universal Mount

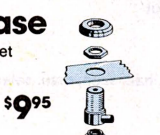
A quality magnetic base — ideal for the company car where holes aren't allowed! Complete with 2m coax and PL-259 plug. Standard thread suits most antennas. Cat D-4514



\$39.95

SO-239 Antenna Base

Coaxial base with integral SO-239 socket for antennas with PL-259 type bases. Waterproof construction (no problem leaving antenna off). Cat D-4035



\$9.95

Quick Disconnect

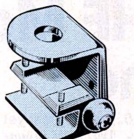
Enables you to remove your antenna from its mount with an easy press and twist. Saves your antenna being stolen. Cat D-4501



\$12.95

Gutter Mount

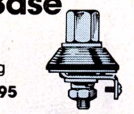
Heavy duty gutter mount fits most cars/trucks/vans etc with roof gutters. Double Allen Screw adjustment for positive locking, angle also variable. Allen Key supplied. Cat D-5100



\$49.95

Light Duty Antenna Base

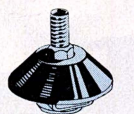
Standard 5/16in 26TPI threaded mount in black ABS base. Suits 1/4 wave and smaller CB antennas or small VHF whips. Mounting plate includes solder lugs for coax connection. Cat D-4056



\$5.95

Coax Fed Base

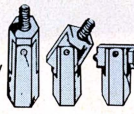
Similar to above base but designed specifically for VHF/UHF use with minimum loss. Coax cable enters directly into bottom of mount and terminates on antenna thread. Waterproof construction. Cat D-4516



\$7.95

Folding Snap Down

Allows CB and similar antennas to be folded down in car parks, garages, etc, without removal. Simply lift and fold over. Male and female 5/16" threads, electrically becomes part of antenna (SWR antenna after fitting). Cat D-4506



\$9.95

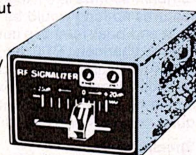
RF Signaliser

Inserts in antenna lead to give from -25dB to zero to +20dB gain. The gain lifts signals out of the mud while the cut stops them bending your needle.

Switches automatically on transmit. Needs 12V DC 35mA.

\$69.95

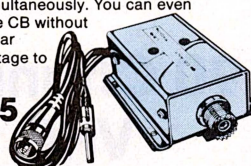
Cat D-3828



Car Radio/CB Antenna Splitter

Why put on extra antennas when you don't have to? Use your normal CB antenna for your car radio too! Splitter box allows both to be used simultaneously. You can even transmit on the CB without blasting your car radio's input stage to bits! Cat A-7455

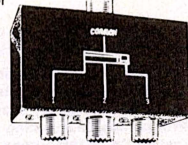
\$16.95



3-way Antenna Switch

If you have more than one antenna or use more than one rig then this switch will save you swapping by hand. Handles 50 watts at 30MHz: ideal for base or mobile use. Cat D-5206

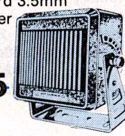
\$18.95



Remote Communications Speaker

Great for the car, home — in fact anywhere you need an extension speaker for your transceiver or receiver. 8 ohms impedance, supplied with cable and standard 3.5mm audio plug. Because of the larger (10cm) diam. speaker, you'll probably get much clearer sound. Cat A-2451

\$19.95



Beat Corrosion!!

The amazing Cortec 101 corrosion inhibitor protects your valuable equipment. Simply slip the Cortec 101 into your electronic devices and an invisible vapour beats the hell out those nasty little rust bugs. Lasts up to two years!! Cat D-1300

\$1.95



Xtals for Hand-Helds

Standard transmit/receive pairs for the popular 27MHz. marine channels. Simply plug into the hand-held (also suit older style in-dash transceivers).

27.550 D-6055
27.620 D-6062
27.860 D-6086
27.880 D-6088
27.900 D-6090

27.910 D-6091
27.940 D-6094
27.960 D-6096
27.980 D-6098

\$9.50

Pair

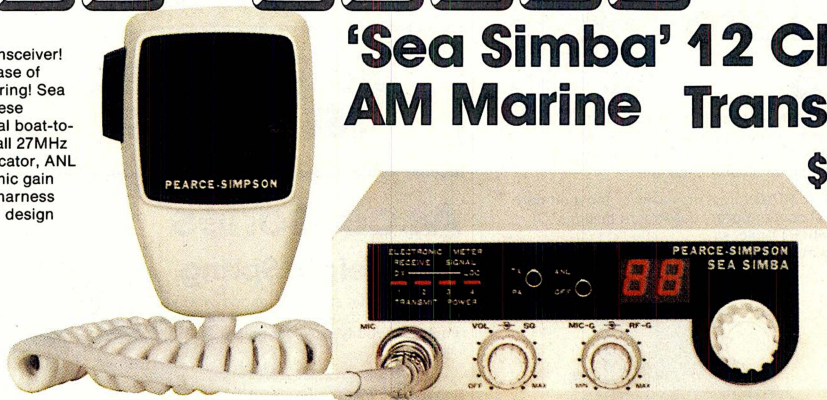
MARINE RADIO

PEARCE-SIMPSON

A truly advanced 12 Channel (10 fitted) marine transceiver! Advanced circuitry, advanced design, advanced ease of operation. The Sea Simba won't leave you floundering! Sea Simba... sounds like it'll get up and dance. With these features nothing would be a surprise! For all normal boat-to-boat and boat-to-shore communications. You get all 27MHz marine channels, PTT mic, large LED channel indicator, ANL switch, PA, LED level indicators, squelch control, mic gain control, RF gain control, ext. and PA jacks, wiring harness and in-line fuse and mounting bracket with special design quick release knobs. Cat D-1718

Specifications:

Power Output: 4 watts max.
Frequency: 10 channels in the 27MHz band
Audio output: 2.5W max. @ 8 ohms
Squelch range: 1mV
Antenna: Nominal 50 ohms impedance
Dimensions: 146 x 190 x 51mm



'Sea Simba' 12 Channel AM Marine Transceiver

\$139⁹⁵

Shipping weight: 1.5kg
 Shipping size: 265 x 250 x 85mm

90 Channel VHF

With
Seaphone!



The MC724 has to be one of the most advanced VHF Marine Transceivers available! Superb design and quality features from Uniden... Just Look!

- All Australian & International channels
- Special 'Watch Mode' lets you automatically monitor any channel while you're on another. (Ideal for emergency channel)
- Programmable scanning
- Instant Ch 16 (emergency channel) selection
- Keypad channel selection
- Scans telephone channels
- With memory, reversible front panel, direct access to weather channels, Intercom/PA facility and more!

Specifications:

Channels — Transmit: 55
Receive: 90 Frequency Range — 156 to 158MHz trans. 156 to 163MHz receive.
Standby Drain — 1.2A at rated audio output: 0.6A squelched.
Transmit Drain — 4.5A at 25W output: 1A at 1W output
Power Output — 25 or 1 watt
Sensitivity — 20dB quieting: -117dBm
 12dB sinad: -114dBm
Switches — 1W/25W, Intl/USA, Instant Ch16, watch, hail, scan, man. select, memory backup.
 Cat D-1719

\$649

55 Channel VHF Marine Radiotelephone

Another classic transceiver from Uniden — the MC610. Economical yet packed with features including emergency Ch16 selector, large LED display, 1W/25W power saving selector, Seaphone capability, all 55 international frequencies, universal mounting bracket and more!

Specifications:

Channels — 55 transmit/receive
Frequency Range — 156 to 158 transmit
 156 to 163 receive
Power Output — 25/1W selectable
Receiver Sensitivity — 0.35uV for 12dB Sinad
 0.50uV for 20dB S/N
Size — 185 (W) x 245 (L) x 58mm (H)
 Cat D-1720

\$399



Uniden Barracuda AM/SSB Marine Transceiver

Trust Uniden and DSE to bring you state-of-the-art equipment at this fantastic low price! The Barracuda gives you 10 AM and 10 USB channels including the one-touch Emergency Channel 88 switch. Sensible design means that all controls are conveniently placed and easy to use. With PTT mic., large positive grip channel selector, Ch88/TX/RX indicator, signal/power meter, switchable PA, clarifier, gain control and more! A special feature of this amazing transceiver is the Dual Watch Button which gives emergency channel 88 priority over main channel!

Specifications:

Power Output: AM — 4 watts
 SSB — 12 watts, P.E.P.
 PA — 3 watts
Frequency range: 27.680-27.980MHz
Output impedance: 52 ohms unbalanced
Frequency response: 350-2500Hz
 Cat D-1714

Shipping weight: 2.26kg
 Shipping size: 365 x 225 x 100mm

\$299

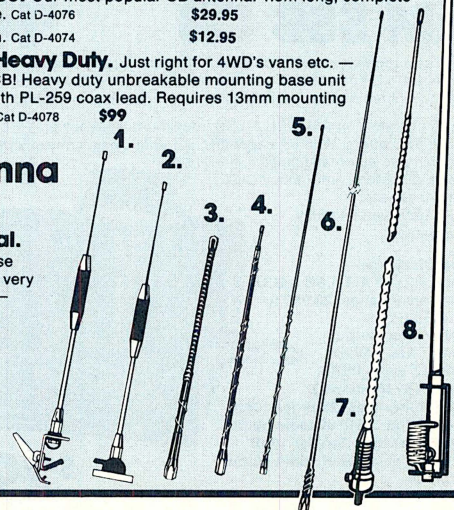


Mobile CB Antennas

- 1. 27MHz Gutter Grip Antenna.** Simply clips onto the rain gutter of most vehicles. Features no hole installation and can be installed or removed without tools. Antenna has centre loading coil to increase effective antenna length. Complete with coax lead and PL-259 plug. Cat D-4411 **\$29.95**
- 2. 27MHz Magnet Base Antenna.** Centre loaded stainless steel construction with heavy magnetic base and 3.3m coax cable with PL-259 plug. Cat D-4635 **\$29.95**
- 3. Mini Mini Whip.** If you thought the above one was small... just 33cm long! Helically wound, extremely flexible. Standard 5/16" thread, suits 5/16" base (not supplied). Cat D-4635 **\$15.95**
- 4. Bush Bandit Adjustable Helical.** Another one from Mobile One! Top-loaded helical with fully adjustable top stud. Great for use as a spear, too. Standard thread, mount not supplied. Cat D-4420 **\$24.95**
- 5. Mini Whip.** Just 1 metre long — with really great performance. Less wind resistance, less danger of being hit by low flying aircraft. Standard thread, mount not included. Cat D-4072 **\$19.25**
- 6. Helical Whip and Base.** Our most popular CB antenna. 1.5m long, complete with coax cable and special base. Cat D-4076 **\$29.95**
- 6a. Whip only for above system.** Cat D-4074 **\$12.95**
- 7. 183cm Whip, Super Heavy Duty.** Just right for 4WD's vans etc. — or anyone really serious about CB! Heavy duty unbreakable mounting base unit and massive spring, complete with PL-259 coax lead. Requires 13mm mounting hole — in something real solid! Cat D-4078 **\$99**

Base CB Antenna — 27MHz

- 8. ¾ Wavelength Vertical.** Brand new design for 27MHz base stations. Very easy to erect, and very easy to SWR in. Not just for CB — also ideal for surf clubs, boating clubs, etc. And easily adapted to 28MHz for amateur. Cat D-4427 **\$89.95**



H A N D - H E L D S

1W 3 Channel Safety Transceiver

Our most popular
hand-held

Nice and small for the bushwalker, rock-hopper, fisherman or hiker to keep in the back-pack: just in case! Fitted with bushwalking frequency of 27.620, two other channels left open for your choice of crystals (take about ten seconds to fit!) Not normally used on marine band, but in an emergency

you can use anything! Keep one in the tackle box! Cat D-1102

DOC Approval No: 242H0108

3W 3 Channel Transceiver

At this price, you can't afford to be without one!

Medium power, medium price — but top performer! A new model, exclusive to Dick Smith Electronics, with a multitude of uses. Approved for CB use, comes with one CB channel fitted. Other channels left open for your choices. Great for fishermen, too: keep in touch (just in case!). Comes with one CB channel fitted. Cat D-1106

DOC Approval No: 249A072

5W 6 Channel Marine Transceiver

At this low price anyone on the water can have the security of a quality transceiver! This high power hand-held has all the power and performance of a fixed model. With maximum legal power and fitted with 27MHz marine frequencies it's ideal for the small boat owner and weekend fisherman. Cat D-1126

Features:

- 27.880MHz crystals (5 channels left open for crystals of your choice).
- External power jack
- Huge 5 watt power
- Signal/battery meter
- High/Low power switch
- High/Low mic. gain
- On/Off/Volume, channel select, PTT, squelch switches

PEARCE-SIMPSON

5W 6 Channel Transceiver

Don't leave shore without one!

A top quality high power hand-held from Uniden: the world's largest manufacturer of 27MHz equipment. All the power and performance of a fixed transceiver — in a transceiver you can take home with you. (It won't be pinched from your boat!) Maximum legal power, and all 6 channels fitted with 27MHz marine frequencies. Nothing more to buy! And you can connect a boat antenna and power for maximum performance if your wish: external antenna and power sockets fitted. DOC Approval No: 242M0172.

Also approved for CB use (DOC Approval No. 249A022 with appropriate CB crystals fitted). Cat D-1125

**HAND-HELD
CRYSTALS**
See Page 77

\$99

\$139

\$149

\$189

Mobile CB Antennas — UHF

1. 2.5dBd Gain

End fed half-wave base loaded whip for UHF mobile use. Ground independent type, complete with base loading coil with integral mounting hardware. 1MHz bandwidth with SWR 1.5:1 or better. Needs 11mm mounting hole, antenna height (inc base from mounting plane) 32cm. Cat D-4020 **\$32.95**

2. 4.5dBd Gain

Colinear UHF antenna with 1/4 plug 3/4 wave for outstanding performance in such a short antenna: just 60cm long. Standard thread, suits any standard UHF base (not inc.). Cat D-4013 **\$14.95**

3. 6dB Gain

When it's real performance you want, you won't beat this one: a huge 6dB gain means you're really going to get heard! This ground independent design includes a mounting base and UHF quality coax — it's ready to mount. Needs 9mm mounting hole. Antenna height (inc. base, from mounting plane) 94cm. Cat D-4015 **\$49.95**

Base Antenna

Colinear base station antenna with omnidirectional characteristics. Ground independent construction, terminated in SO-239 socket. 2.4 metres high, needs only saddle clamp to mount to mast. Cat D-4011 **\$49.95**

Marine Antennas

27MHz Marine Helical

A whip antenna and base suitable for virtually all craft — wood, ferro, glass, cement, etc. It doesn't require the normal "ground plane" as it has its own simulated ground plane. Also supplied with mounting base, cables and PL-259 connector. Cat D-4070

\$59⁹⁵

VHF Marine Whip

Fibreglass marine antenna to suit international VHF Marine Band (156-164MHz). Supplied complete with deluxe "any-whip" swivel and VHF-grade coax. Suitable for a range of VHF marine transceivers perfectly. Overall height (from mounting plane, including base) 1.2m. Cat D-4016

\$79⁹⁵

Portable Mobile Versatile... Two in One!

A new direction in AM CBs from Uniden — the astounding PRO310e! Not just a mini hand held transceiver with clip on battery pack and DC car adaptor but it also doubles as a mobile.

That's right, the PRO310e has all 40 channels (including instant select Ch 9), Up/Down electronic channel selection, HI/LOW switch, portable antenna, built in mic, snap-on battery pack, squelch and LED station readout — all in a compact unit that fits easily in the hand!

But that's not all! Included is magnetic antenna base and car adaptor so it's equally at home as a mobile.

And the lot comes in a handy vinyl carry case! Cat D-1124

\$199

Sundowner UHF Hand- Held

Go-anywhere action on UHF CB: that's the Sundowner Hand-Held. All 40 channels fitted with very healthy 1.5W output (switchable to 0.15W to save battery). It's supplied complete with 10.8V NiCad battery (recharge also inc) and whip antenna — so you don't need anything else to start talking! Hand strap and belt clip supplied (use belt clip with optional base station with suitable power supply and external antenna. Cat D-1807

Shipping weight: 975g
Shipping size:
255 x 150 x 90mm

\$599

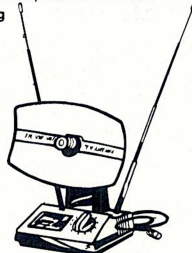
ANTENNAS

Deluxe 3 Band Indoor

Ideal for strong reception areas, you'll save heaps on complex outside systems with this quality UHF, FM, VHF indoor antenna. Colour, black and white and stereo, nothing's a worry for this one. Installed in seconds for the perfect picture. Cat L-4005

Shipping weight: 570g
Shipping size: 210 x 135 x 190mm

\$34⁹⁵



Economy Indoor

If you're lucky enough to live in a strong signal area, you'll probably get by with one of these spiral antennas, even with colour. Don't expect miracles if you're out of sight of the transmitter, (it is quite probable you will require an outside antenna). Cat L-4010

Shipping weight: 1.5kg
Shipping size: 1000 x 200 x 100mm



Good Ol' Rabbit Ears...

When an outdoor antenna isn't possible or connecting a second TV set is too much trouble, count on the good old rabbit ears... the indoor antenna that sits on your TV set. Delivers great picture quality. Easy to set up: connect 300 ohm cable to back of set, adjust 'V' antennae for precise signal. Extending telescopic antennae fine tunes reception on individual channels. Cat L-4015

\$26⁹⁵

Shipping weight: 222g
Shipping size: 270 x 108 x 47mm



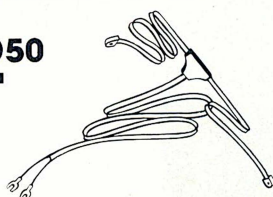
Indoor Ribbon TV/FM Antenna

A simple flexible dipole antenna suitable for both FM and TV reception. It is best suited to primary reception areas where it is unnecessary for a full scale outside system. It is ideal for use in situations where space is at a premium. Simply connect to your terminals, find the best reception position and then secure with thumb tacks or adhesive. Cat L-4060

• 300 ohms impedance

Shipping Weight: 50g
Shipping Size: 170 x 140 x 20mm

\$2⁵⁰

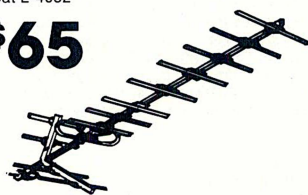


Band 4 UHF

With Reflector

Get good VHF reception but having trouble with SBS? Our band 4 VHF antenna solves the problem. Can easily be coupled with your existing antenna. Reflector helps eliminate ghosting and with the corrosion resistant finish you'll get years of service. Cat L-4082

\$65

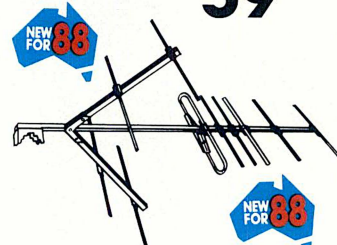


Budget Band 5

With Reflector

If you're lucky enough to be in a good reception area then this is the antenna for you! Quality corrosion resistant UHF band 5 antenna with reflector to help eliminate ghosting. It's a great money saver too! Cat L-4080

\$59⁹⁵



Deluxe Band 4 & 5 UHF

Ideal if you live close to a signal source! Uses 'Butterfly' elements for much greater gain and anti-ghosting. Use it alone or couple it with our superb Ghostbuster (L-5058) antenna for the best of both worlds. Gold anodised finish. Cat L-4084

\$99

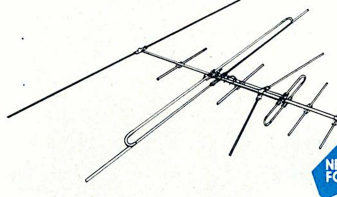


Metropolitan High Gain V.H.F.

This antenna has proven to be our biggest seller. Extremely popular in the metropolitan areas and near fringe areas, because it has been designed to give maximum gain on channels 2, 7, 9 & 10. Complete with mast clamps, suits twin lead with its 300 ohms impedance. Use a balun if you want to use 75 ohms coax cable with this antenna. Cat L-4022

Shipping weight: 2kg
Shipping size: 2120 x 200 x 100mm

\$69⁹⁵



Ideal For Fringe Areas...

Top Performing VHF/UHF

Superb high gain antenna with reflector that's just the thing for fringe area reception. Designed for UHF/VHF so you'll save money and the hassle of two antenna installations! Highest quality, construction and Australian design. Cat L-4051

\$139

NEW FOR 88

Take It Anywhere...

Combined UHF/VHF

For Caravan, Boat, Camper, Etc.

You can even use it at home where the signal levels are reasonable! With optional mounting hardware it's perfect for the van, boat, etc. Suits horizontal or vertical mounting and with the new anti-corrosion finish it'll perform this holiday, and the next, and the...! Cat L-4055



\$49⁹⁵

NEW FOR 88

Combined UHF/VHF Antenna

Why put up two antennas when one antenna will give you both UHF and VHF signals? One of our most popular antennas. Has the latest 14 element design which needs just one feed line. Suits 300 ohm ribbon. Easy to install on existing mast. Comes complete with mast clamp. Great value for dual purpose antenna! Cat L-4020

Shipping weight: 2kg
Shipping size: 2340 x 180 x 100mm



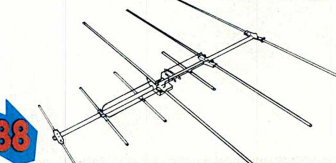
\$79⁹⁵

The NEW Ghostbuster...

VHF Antenna

Superb anti-ghosting antenna for areas where ghosting is a problem. Can be coupled with L-4084 for the best reception on both UHF & VHF. Blue powder coating finish and sturdy plastic insulators for long, long life! Cat L-4058

\$119

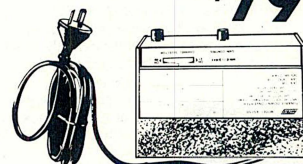


3 YEAR GUARANTEE

UHF/VHF Down Converter

Like to get Channel 28 on that old set? Here's what you'll need! Our new UHF/VHF Down Converter is great value and saves heaps on buying a new set. With adjustable channels 21-69 it tunes in perfectly. Ideal for suburbs with local area translators. Comes complete with power supply and full instructions! Cat L-4473

\$79⁹⁵



Gutter Mount

Allows L-4055 Go-Anywhere antenna to go anywhere — along the gutter! Clamp arrangement holds antenna firm. Ideal for flats, etc. where larger installation not allowed. Cat L-4056

\$5⁹⁵

Caravan/Utility Bracket

Along with above L-4065 mounts the L-4055 Go-Anywhere antenna to your caravan, camper, RV, etc. Cat L-4057

\$3⁹⁵

TV Mast Pipe

2.4m length of 27.5mm diam. heavily galvanised steel pipe, ideal for use as a TV antenna mast. Use in conjunction with any of the standoffs or supports on these pages. Cat L-4156

Shipping Weight: 1kg
Shipping Size: (road only) 2400 x 80 x 235mm

\$9⁹⁵

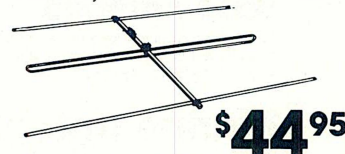
4m Mast

2 part telescopic mast, extending to approx. 4.5m. Bolt tightens onto top section allowing any height selection. Top of mast same diameter as above pipe. Cat L-4157

\$29⁹⁵

FM Radio Antenna

3 element dipole antenna specifically cut to suit 88 to 108MHz FM radio band. Very simple to erect, uses 300 ohm receivers (some may need balun). Top performance from a very economical antenna. Cat L-4064



\$44⁹⁵

Easy Outdoor Antenna Connection

Saves heaps of time and trouble! This 12 metre coax cable comes complete with outdoor Balun — already fitted. Just connects straight onto your antenna

Shipping weight: 450g Cat L-4466
Shipping size: 160 x 200 x 40mm

\$24⁹⁵



Yes! All Antenna Signal TV Antennas from Dick Smith Electronics carry a 3 year guarantee on workmanship and materials.

* Normal usage and wear & tear only, accidental damage and damage due to external causes excluded.

Barge-board Mount

Designed to mount any TV antenna from a vertical surface, barge-board, wall, chimney, etc. 139cm long. (Hot dipped galvanised to prevent corrosion.)

Cat L-4150

Shipping Weight: 85g

Shipping Size: 1450 x 90 x 70mm

\$14⁹⁵

28cm Wallmount

28cm long, can be used for wall or barge mounting of vertical masts up to 5cm diameter. Complete with saddle clamp assembly. Cat L-4152

Shipping Weight: 570g

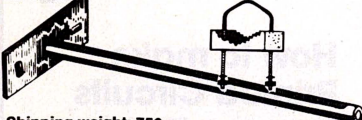
Shipping Size: 300 x 135 x 70mm

\$9⁹⁵



69cm Wall Mount

69cm long, used for mounting vertical mast sections up to 5cm in diameter. Complete with saddle clamp assembly. Cat L-4153



Shipping weight: 750g

Shipping size: 710 x 200 x 30mm

\$10⁹⁵

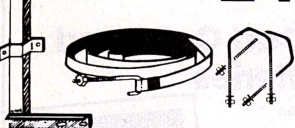
Chimney Mount

This is a double arm, single strap, easy to mount unit. Complete mast mount assembly. Cat L-4154

Shipping weight: 161g

Shipping size: 320 x 80 x 70mm

\$24⁹⁵

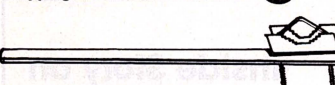


Vertical Stand Off Mast

Here's a great idea! Changes mast plane to reverse polarity. Designed for those areas where standard antennas can't normally be used. Yes, it's galvanised so the rust bugs can't get to it! Cat L-4170

Shipping weight: 190g

Shipping size: 390 x 50 x 40mm



Saddle Clamp

Beats using fence wire and old pieces of string! Designed for holding two pieces at right angles: eg. mast pipe onto mount, or antenna onto mast pipe. U and V clamp combined in one unit. Cat L-4165

Shipping weight: 44g

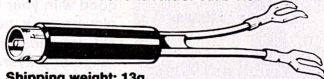
Shipping size: 80 x 55 x 5mm

\$2⁹⁵

There's a DSE store near you — wherever you are

TV Game Balun

Makes it easy to use your colour TV game with a black and white set. Spade lugs make connections simple, no soldering required. Excellent value. Cat L-4454



Shipping weight: 13g

Shipping size: 110 x 80 x 10mm

\$2⁹⁵

10 up \$2.66

TV Game Computer Switch Box/Balun

If you have a TV game you're not sick of swapping cables every time you want to use it. Problem solved! This switch box/balun has two 2 inputs and 2 outputs. It allows you the choice of 70 ohm or 300 ohm. Cat L-4500



Shipping weight: 27g

Shipping size: 110 x 110 x 25mm

\$9⁹⁵

Indoor/Outdoor Balun

Successfully matches 75 ohm coaxial cable to the 300 ohm ribbon terminals on your TV, FM tuner or antenna. Weather resistant for either outdoor or indoor use. Comes complete with coaxial plug connector and cover and can be installed in minutes. Cat L-4465

Shipping weight: 2.8kg

Shipping size: 200 x 25 x 20mm

\$4⁹⁵



Universal Balun

The universal balun — has 300 ohm screw terminals and 75 ohm coaxial plug — can be used either way round. Ideal for the person requiring a balun but not really knowing which type! Cat L-4456

Shipping weight: 15g

Shipping size: 110 x 80 x 20mm

\$2⁹⁵

10 up \$2.66



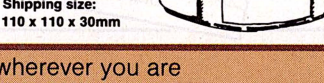
Indoor UHF/VHF Diplexer

Many TV sets and videos have only one antenna input: tough luck if you're running VHF and UHF antennas! Now there's a solution — the Diplexer. Accepts lead-ins (75 ohm) from both antennas and combines them without the normal losses associated with couplers used at UHF. Then you can run one lead-in to the TV/Video. Cat L-4470

\$11⁹⁵

Shipping weight: 100g

Shipping size: 110 x 110 x 30mm



HARDWARE

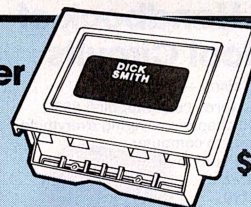
Crook Pic? Fix it quick!

Mast Head Amplifier

Poor signal? Lousy picture? We can't help you with the rubbish the TV stations put out, but we might be able to help fix a poor signal! The DSE Masthead can make an unbelievable difference: it amplifies the signal right at the antenna — where there's less noise, giving you more oomph and allowing a longer lead in, too. Two piece unit includes amplifier box and power supply (240V operated — draws negligible current). Cat L-4200

Shipping weight: 356g

Shipping size: 150 x 80 x 120mm



\$75

- 40-400MHz bandwidth (covers VHF TV and FM radio)
- 24dB gain
- 75 ohms input and output (suis coax)
- Zero gain at 27MHz (for CB interference suppression)
- Includes power supply

Indoor 75 ohm Splitter

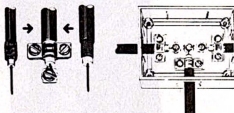
Similar to L-4474, but for two sets only. Covers 50-890MHz. Isolation: 25dB. Insertion loss: 3.5dB. Cat L-4472

Shipping weight: 50g

Shipping size: 100 x 65 x 30mm

\$6⁵⁰

10 up \$4.90



Standoff Assembly

Complete with standoff and strap assembly. Used for standing cable off masts sections. 8.8cm long. Holds ribbon or COAX. Cat L-4512



\$1⁹⁵

Nail-in Cable Clamps

Ribbon Type

Suitable for running flat ribbon cables on walls, skirting boards, etc. Gives a neat professional job. Cat L-4514



60¢

Coax Type

As ribbon type but suitable for coaxial cable. Cat L-4515

Coax Clamp Bargain Pack

In a pack of 25, about the right number for a proper installation. And look how much you save! Cat L-4516

Shipping weight: 25.5g

Shipping size: 145 x 75 x 15mm

\$2⁹⁵

4-way Splitter for 300 ohm Ribbon

Handles either colour or black and white TV with absolute minimum loss of signal strength even when all sets are operating at the same time. Compact plastic case can be mounted at any convenient location near antenna lead. 300 ohms input/output impedance.

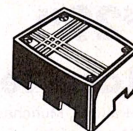
NOTE: If all inputs are not being used at once, a 330 ohm resistor should be placed across the unused outputs. Covers 50-890MHz. Cat L-4220

Shipping weight: 70g

Shipping size: 70 x 110 x 35mm

\$7²⁵

10 up \$6.53



2-way 300 ohm Splitter

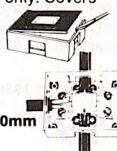
As 4-way splitter but 2 sets only. Covers 50-890MHz. Cat L-4218

\$4⁹⁵

10 up \$3.78

Shipping weight: 70g

Shipping size: 60 x 35 x 70mm



2-way Coax Splitter

A nifty little splitter/combination for indoor use. Fitted with standard TV coax plugs and sockets just plug it in without any messy wiring. Normally used for 2 TV sets from one antenna, but can also be used 'backwards' to combine two antennas into one TV set. Cat L-4270

Shipping weight: 23g

Shipping size: 40 x 50 x 110

\$3⁵⁰

10 up \$2.65



In-Line Amp/VCR Booster

The output signal from video recorders is often too low for optimum performance on many TV sets. Or you may have degraded signal when trying to run one alone. The solution: just connect a little in-line amplifier between your VCR & TV. Boosts the signal level to give a clearer picture viewing. And the best part is it simply plugs into your existing system. Also ideal for boosting signal on long coax feed lines. Cat L-4202



Shipping weight: 100g
Shipping size: 120 x 20mm
50 ohm
10dB gain

Requires just 9V at 100mA (our M-9525 is ideal)

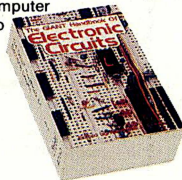
\$34⁹⁵

Made in Australia for DSE by



Giant Handbook of Electrical Circuits

Raymond A. Collins — 880 pages
Giant isn't the word: it's a whopping 880 pages! With 60 chapters covering everything from crystal sets to computer circuitry, you're sure to find what you want here! Cat B-1780

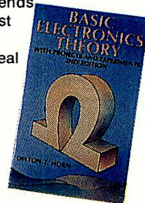


Size: 210 x 130mm

\$32⁹⁵

Basic Electronics Theory

Delton T. Thorn — 666 pages
With projects and experiments. Starts with very basic principles and ends with computers — with just about all aspects of electronics in between. Ideal reference work for tech, school students, etc. Cat B-1615

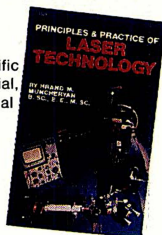


Size: 210 x 130mm

\$29⁹⁵

Laser Technology

Hand M. Muncheryan — 298 pages
The principles and practice of laser technology. The ideal reference or trainer for hobbyist, technician or anyone interested in the many fascinating applications of laser technology. Covers everything from scientific applications to industrial, medical and educational uses. Cat B-1861

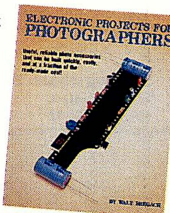


Size: 210 x 135mm

\$19⁹⁵

Electronic Projects for Photographers

Walt Bregach — 243 pages
With this exceptional guide, you'll enter a whole new world of photography. Amateurs will learn new facets of the art they never thought of and even professionals can pick up a trick or two. Cat B-1740

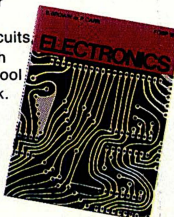


Size: 235 x 135mm

\$31⁹⁵

Electronics: A Practical Introduction

B. Brown and P. Carr — 100 pages
With this handy study guide you'll become a regular bright spark on the subject of electronics. Learn the theoretical and practical aspects of current electrical measurement, power supplies, amplifiers, linear and digital circuits, transistors and much more. Used as a school and college textbook. Cat B-3005



Size: 245 x 135mm

\$16⁹⁵

RF Circuit Design

Chris Bowick — 176 pages
For the person with design experience, experts in the field of rf circuit design or engineers needing a good reference manual. Gives complete design procedures for multi-pole Butterworth, Chebyshev and Bessel filters, examines Q, bandwidth and coupling resonant circuits and more! Cat B-1150

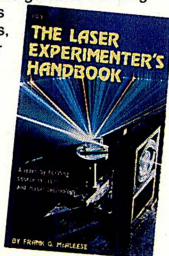


Size: 210 x 210mm

\$39⁹⁵

Laser Experiments

Wow! The future is yours today. This amazing book is a comprehensive guide to building your own laser. It takes you from basic physics, through to actual laser experiments. Cat B-1860



Size: 210 x 130mm

\$21⁹⁵

Databook

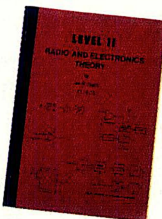
Complete listing of all COS/MOS, HS-C2MOS and 74HC00 series IC's. Cat B-3632



\$3⁹⁵

Level II Radio and Electronics Handbook

Ian Ridpath
Over 150 pages covering advanced electronic theory up to the level equivalent to most technicians! Presented in a clear and concise manner as in a classroom situation. Covers areas such as single phase power supplies, single sideband modulation, digital circuits logic and boolean algebra and much more! Cat B-2312

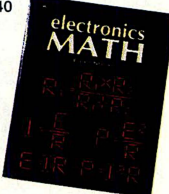


Size: 216 x 153mm

\$16⁹⁵

Electronics Math

At last! Someone's put it all together in one handy reference. Whether student battling with a trade or certificate course, or old-timer wishing to know what it all means, you'll find this book invaluable. Not overly theoretical — but high in logic and explanation! Cat B-1140



Size: 235 x 190mm

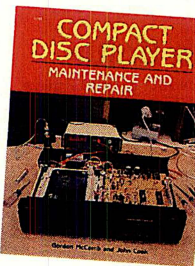
\$24⁹⁵

Everything you ever wanted to know about everything you ever wanted to know about. DSE books are like having your own electronics library!

Compact Disc Player Maintenance & Repair

G. McComb & John Cook — 245 pages

If you own, or are thinking about purchasing a CD and you're good with your hands, you'll find this book a gem. How CD players work, how to install them, simple maintenance, CD first aid, troubleshooting, CD reference guide, specs on a broad range of players and much more! Cat B-1892



Size: 190 x 240mm

\$23⁹⁵

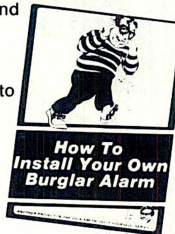


DSE's OWN "HOW TO..." SERIES

Everything you wanted to know about... but didn't know who to ask. Bargain priced data sheets and booklets by DSE's own technical staff.

How to install your own Burglar Alarm

This booklet explains how to install a burglar alarm and protect your property whilst you still have some property to protect! Cat B-6000



\$1⁹⁵

How to install your own TV/FM Aerial

Save on costly fees, understand what is going on and do-it-yourself. Cat B-6010



50¢

How to deal with CB Interference

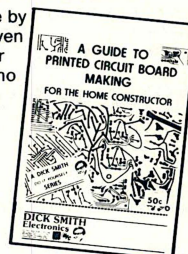
Enjoy your CB radio but stay friendly with neighbours. Stop TVI before it starts! Cat B-6025



50¢

How to make Printed Circuits

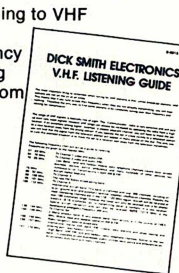
Save a fortune by making and even designing your own PCBs — no experience required. Cat B-6005



35¢

VHF Listening Guide

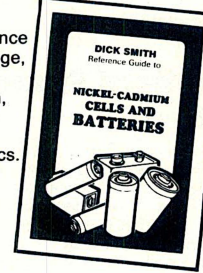
Hints on listening to VHF radio and a handy frequency chart, listening frequencies from 57 through to 174MHz. Cat B-6015



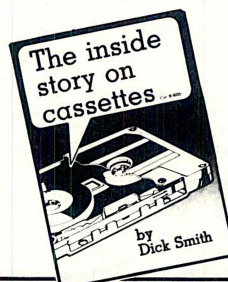
10¢

NiCad Cells and Batteries

7 pages
Handy reference guide to charge, discharge, voltage drain, temperature and life characteristics. Cat B-6040



95¢



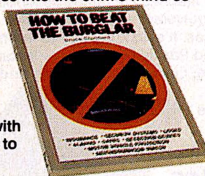
Inside Story on Cassettes

DSE — 11 pages
Covers everything from choosing a recorder and cassettes to maintenance and recording hints. A MUST if you do any recording on cassettes! Cat B-6035

50¢

How to Beat the Burglar

Bruce Stannard — 128 pages
Not just electronics and alarms, it also delves into the crim's mind so you're ready to fight back! A must for every person with property to protect.

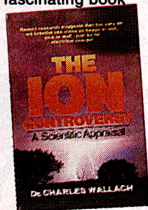


Cat B-1040

\$8⁹⁵

The Ion Controversy

Dr. Charles Wallach — 128 pages
Why do thunderstorms, waterfalls and even your morning shower leave you so refreshed? Why does air-conditioning affect some people so badly? This fascinating book outlines the history and more recent effect.



Size: 172 x 110mm

\$3⁵⁰

Active-Filter Cookbook

Don Lancaster — 240 pages
Everything about active-filters. From how to build an active filter, the many types available, and the one to suit your needs, and the one to interest to the hobbyist and technicians.



Size: 215 x 135mm

\$29⁹⁵

The Automotive Security System Design Handbook

J. Daniel Gifford — 227 pages
This book is an in depth look at designing, building and installing a variety of vehicle security systems.



Size: 275 x 205mm

\$19⁹⁵

Electronics for Model Railways

Ken Stone — 74 pages
Now railway modellers can achieve a great degree of realism on their layouts. Level crossing flashing unit, scale fluorescent lamps, street signs. Devices to build.

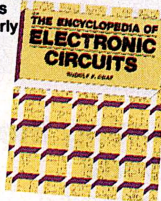


Size: 275 x 205mm

\$4⁹⁵

Encyclopedia of Electronic Circuits

Rudolf F. Graf — 750 pages
This comprehensive reference book is the A-Z of electronic circuits: from alarms to zero crossing detectors, it's all there. It will save you valuable time searching for a particular circuit, plus eliminates all guess work in deciding whether 'that' circuit will meet your requirements.



Over 750 pages containing nearly 1,300 most-needed circuit schematics.

Cat B-1760

Size: 235 x 184mm

\$59⁹⁵

TTL Cookbook

Don Lancaster — 335 pages
A complete guide to the understanding and use of Transistor Logic (TTL) integrated circuits — the basics of TTL are given, what it is, how to power it and so on! Also contains a catalogue of TTL devices, giving physical and electrical specs.



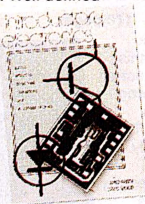
Cat B-1246

Size: 215 x 135mm

\$29⁹⁵

Introductory Electronics

An introductory text for students and enthusiasts. Starting with basic electronic theory. Well defined chapters and exercises takes you through to constructing electrical circuits.



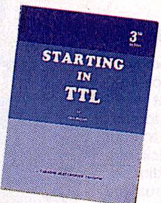
Cat B-3635

Size: 215 x 135mm

\$12⁹⁵

Starting in TTL

Colin Mitchell — 74 pages
The best way to learn about digital electronics is by understanding TTLs. And this excellent publication is the perfect introduction to the subject. Over 70 pages containing 22 experiments, information, diagrams and instruction on how to build a trainer.



Cat B-3629

Size: 275 x 205mm

\$4⁹⁵

Transistor Equivalents

239 pages
This reference book enables the user to find substitutes for approximately 9,500 transistors.



Cat B-4507

Size: 184 x 139mm

\$6⁹⁵

CMOS Cookbook

Don Lancaster — 416 pages
First an explanation of what CMOS is, how it works, and how to power it. Then a mini catalogue of over 100 devices, including pinouts and usage descriptions.



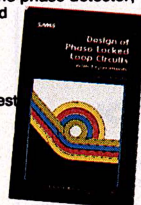
Cat B-1248

Size: 215 x 135mm

\$29⁹⁵

Design of PLL Circuits With Experiments

Howard M. Berlin — 254 pages
A fascinating introduction to PLL circuits: the theory, design and practical applications. Learn everything from the phase detector, voltage-controlled oscillator to digital freq. synthesizers and more! Includes experiments to test your newly acquired knowledge.



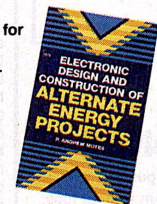
Cat B-1249

Size: 215 x 135mm

\$19⁹⁵

Alternate Energy Projects

Andrew Motes — 286 pages
A state-of-the-art electronic design and construction manual for alternate energy projects. Includes building instructions, circuit diagrams and components part numbers for monitoring and control devices for wind and solar power systems.



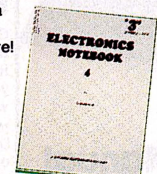
Cat B-1775

Size: 130 x 210mm

\$24⁹⁵

Electronics Notebook 4

Colin Mitchell — 65 pages
The latest in the tremendously popular series. This issue deals with the Thyristor, soldering, heatsinks, using a CRO, the inductor, how a zener diode works and more!



Cat B-3637

Size: 210 x 275mm

\$2⁹⁵

International Transistor Selector

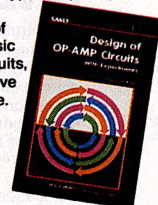
Towers — 128 pages
Computer listings of over 10,000 transistors with substitutes, outline diagrams, terminal identification, manufacturers, codes and specifications.

Cat B-1826

\$39⁹⁵

Design of Op-Amp Circuits With Experiments

Howard M. Berlin
Over 220 pages of information. Renowned author, Howard M. Berlin teaches you how to distinguish one type of op-amp from the other, about the use of op-amps in basic linear amp circuits, their use in active filters and more.



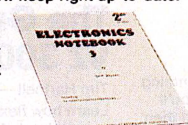
Cat B-1251

Size: 215 x 135mm

\$24⁹⁵

Electronics Notebook Vol 3

Colin Mitchell — 66 pages
The latest in the series. You've benefited by the information in the first two: now keep right up-to-date.



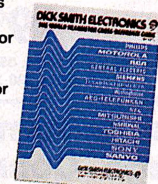
Cat B-3634

Size: 275 x 205mm

\$2⁹⁵

The World Transistor Cross-Reference Guide

A DSE Book
Printed especially for Dick Smith Electronics, this book covers specifications for all major manufacturers and some minor ones as well.



Cat B-4506

Size: 150 x 230mm

\$12⁹⁵

IC Timer Cookbook Second Edition

Walter G. Jung — 430 pages
Gives a good explanation of the operation of timer circuits and recipes for cooking them. Shows a huge number of applications of the timer IC's in individual circuits and larger systems.



Cat B-1245

Size: 215 x 135mm

\$32⁹⁵

A First Electronics Course

R.B. Arnold and P.T. Lawson — 87 pages
A great beginner's book for learning about the fascinating world of electronics. 8 chapters giving theory, simple experiments and loads of puzzles and questions to make learning enjoyable.



Cat B-2615

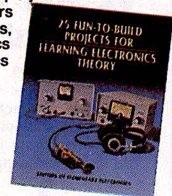
Size: 230 x 275mm

\$12⁹⁵

Learning Electronics Theory

— 196 pages

Editors of Elementary Electronics
Great reference or beginner's material with 25 projects to build as you learn. Covers basic electronics, audio electronics, radio electronics and digital electronics.



Cat B-3008

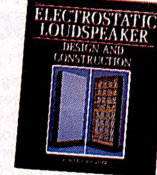
Size: 185 x 235mm

\$14⁹⁵

Electrostatic Loudspeaker

Design And Construction

Ronald Wagner — 248 Pages
Step by step instructions on how to build your own electrostatic speakers as well as theory and history of electrostatic speakers and transducers.



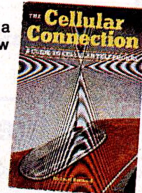
Cat B-3612

Size: 190 x 230mm

\$24⁹⁵

The Cellular Connection

Josef Bernard — 152 pages
The complete guide to cellular phones. How they work, cellular phone equipment, what to look for in a cellular phone, how calls are charged, options and accessories, even how to use one.



Cat B-1890

Size: 150 x 230mm

\$19⁹⁵

Logic Data Book Volume 1

National Semiconductor Corporation — 50mm thick and it's all hard information on National Semiconductor high speed microCMOS logic families MM54HC/74HC, CD4000, MM54C.74C and the many unique CMOS LSI products. An invaluable reference guide for anyone working or delving into electronic circuits.



Cat B-4015

Size: 170 x 230mm

\$31⁹⁵

Logic Data Book Volume II

The other essential reference work from National Semiconductor Corporation. Covers everything on the extensive Bipolar Logic Families, ALS, AS, LS, S, TTL, and Low Power.



Cat B-4016

Size: 170 x 230mm

\$31⁹⁵

Make full use of your computer and peripherals! Learn everything there is to know with the DSE range of books. Hardware, software, peripherals it's all at your nearest DSE store!

VZ 300 Technical Manual

DSE — 70 pages
Learn to use your VZ 300 Colour Computer to maximum effect with this handy manual containing additional information concerning programming, hardware operation and expansion. Cat X-7324

\$14⁹⁵

Weight: 220g
Size: 296 x 213mm



Giant Book of VZ 300 Games

Tim Hartnell — 278 pages
Computers are fun! Combined with your VZ 300 Colour Computer, games can be entertaining and educational too. This superb book lists games and how to play them: from adventure, space action to old favourites like checkers. Plus a chapter on how to create your own games.

Cat X-7326

\$14⁹⁵

Weight: 460g
Size: 221 x 178mm

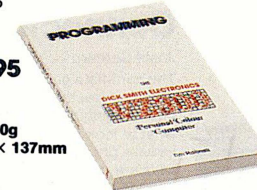


Programming the VZ 300

Tim Hartnell — 171 pages
Get into the exciting world of programming with this easy to read manual. First you'll be familiarised with the keyboard and then start learning all those programming tricks: random number generation, strings, arrays, PEEK and POKE, debugging — all you need to enjoy the wonders of programming on your VZ 300. Cat X-7325

\$14⁹⁵

Weight: 240g
Size: 211 x 137mm

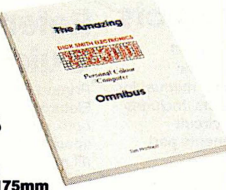


The Great VZ 300 Omnibus

Tim Hartnell — 188 pages
Learn how flexible your VZ 300 is with this superb book. It takes you beyond off the shelf software use by teaching you how to create an artificial intelligence program, a language translator or utilise sound and graphics capabilities. Even learn search and sorting techniques from this book. Cat X-7327

\$19⁹⁵

Weight: 350g
Size: 220 x 175mm



Beginner's Guide to Machine Language

Christopher D. Metcalf and Marc B. Sugiyama — 410 pages
For those BASIC programmers who want to learn Machine Language, this is the book for you! It is an excellent guide to Machine Language and a handy reference source too. Learn how to use Machine Language with BASIC, merge with Pascal, how to use BIOS and DOS interrupts plus much more. Cat X-8643

Weight: 560g
Size: 228 x 160mm

\$38⁹⁵

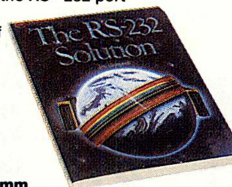


The RS-232 Solution

Joe Campbell — 194 pages
Easy to read, illustrated and loaded with helpful case studies: that's the secret to the success of this excellent book. Author Joe Campbell's knowledge of connecting printers, modems and plotters via the RS-232 port has helped a large number of computer owners. Cat X-8637

\$29⁹⁵

Weight: 370g
Size: 227 x 178mm

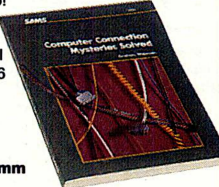


Computer Connection Mysteries Solved

Graham Wideman — 260 pages
Expand your computer system without fuss. Graham Wideman offers the best peripheral connection advice this side of Silicon valley: from simple to advanced connections, RS-232C, parallel and video interfacing — and software too! There's even a troubleshooting chart and helpful hints. Cat X-8636

\$24⁹⁵

Weight: 515g
Size: 247 x 188mm



Baby 'AT' Instruction Manual

The complete guide to building the DSE Baby AT Kit Computer. Comprehensive assemble manual and user's guide, circuit diagrams, layout... the lot! Cat X-1004

Size: 225 x 320mm

\$29⁹⁵

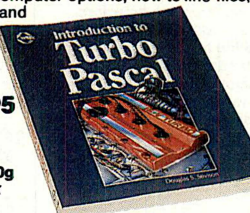


Introduction to Turbo Pascal

Douglas S. Stivison — 270 pages
Want to learn Pascal? Here's the best reference book available — for beginners and experienced programmers alike — on elementary programs, advanced data construction, bit and byte manipulation. Plus advanced computer options, how to line files, debugging and more! Cat X-2373

\$29⁹⁵

Weight: 500g
Size: 226 x 188mm

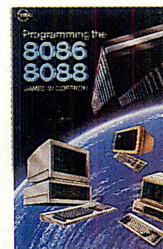


Programming the 8086 & 8088

Your guide to the basic concepts of programming the powerful 8086 and 8088 16-bit microprocessor. Learn internal structures, memory organisation and complete interrupts — plus how to apply the 8088 in controlling an IBM PC. Sample programs included. Cat X-8634

\$29⁹⁵

Weight: 470g
Size: 227 x 152mm

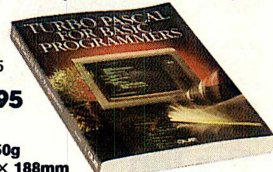


Turbo Pascal for Basic Programmers

Paul Garrison — 400 pages
Compared to BASIC, Pascal is a faster and more efficient programming language. Because BASIC is widely used, author Paul Garrison teaches Pascal by describing the BASIC equivalent and showing the differences. It's an ideal way to learn structured Pascal programs — including data base, currency conversion and many personal programs too. Cat X-2375

\$37⁹⁵

Weight: 750g
Size: 234 x 188mm

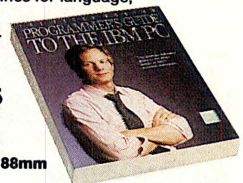


Programmer's Guide to the IBM PC

Peter Norton — 426 pages
The ultimate programmer's reference guide! Create programs, solve problems and learn the differences between the IBM PC, XT, AT, Portable and PCjr. Includes: BIOS basics, DOS functions, linking programs and interface routines for language, Pascal, BASIC and C. Cat X-8648

\$33⁹⁵

Weight: 900g
Size: 233 x 186mm



DSE's OWN HANDBOOK SERIES

Handbooks written by experts especially to suit our conditions. Great reading, outstanding value!

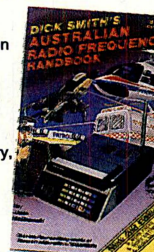
Australian Radio Frequency Handbook

Jack McDonald — 170 pages

This is the fantastic second edition of this best selling introduction to the fastest growing hobby in Australia today... scanning! This edition has not only been updated and revised where necessary, but it also contains hundreds of NEW frequency listings. Cat B-9600

\$6⁹⁵

Size: 213 x 135mm



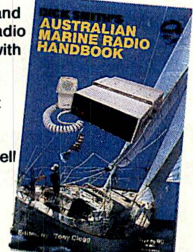
Australian Marine Radio Handbook

Tony Clegg — 154 pages

This book will help boat owners find out just how simple choosing, fitting and using a marine radio can be. Packed with all the essential details, here in a book that will not only inform, but can lead to lives being saved as well. Cat B-9604

\$6⁹⁵

Size: 213 x 135mm



Australian Amateur Radio Handbook

Covers every aspect of this unique and exciting hobby... How to get your licence, what to buy, what to build, how to maintain your radio shack tick, etc. Detailed info on radio operating procedures and courtesies never before available in print! Cat B-2320

\$6⁹⁵

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Australian CB Radio Handbook

DSE — 144 pages
A complete guide to CB Radio including latest marine radio service details. The edition includes new regulations and channel allocations. Cat B-2325

\$6⁹⁵

Size: 213 x 135mm



HERO 1: Advanced Programming & Interfacing

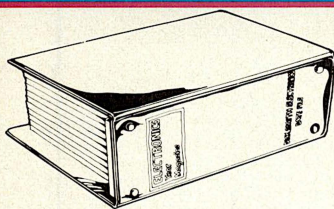
Mark J. Robillard — 234 pages

A must for anyone interested in machine language as well as Hero 1 owners. Deals firstly with basic machine language, then to a comprehensive explanation of firmware on board the Hero 1 then finally into an in-depth analysis of the Hero 1 operating system. Cat B-4850

Size: 215 x 280mm

\$32⁵⁰





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A hard spine magazine binder with metal rods for placement and protection of those valuable mags. Vinyl covered. Holds 12 issues (one year) of any mag to a maximum size of 280mm high by 210mm. Cat B-4045

\$7⁹⁵

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Size: 295 × 225 × 105mm

Want to know anything about Amateur Radio? Technical data, world radio, TV, CB... everything to do with communications. DSE books — turning out professional amateurs!

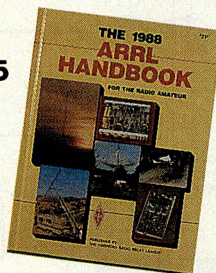
Now in Hardback!

1988 ARRL Handbook

The amateur bible is now exclusively in hardback! And it's still the same price as last year. There's heaps of new construction projects as part of this year's theme. As usual there's all the up-to-date theory you've come to expect from the world's leading amateur handbook. Cat B-2221

Size: 285 × 215 × 55mm

\$49⁹⁵



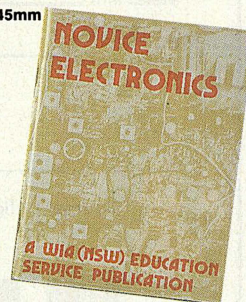
Novice Electronics

136 pages

Another quality text from the Wireless Institute Of Australia. Aims to complete the knowledge needed to attempt the theory examination for the Novice Amateur Operator's Certificate of Proficiency as set by the DOTC. The end of each chapter has a summary, terms that should be known and questions. Cat B-2317

Size: 185 × 245mm

\$6⁹⁵



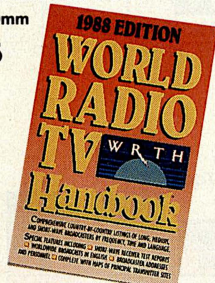
World Radio TV Handbook

1988 Edition!

Frequencies, addresses, call signs, ID's... it all here! A complete, comprehensive listing of international radio and TV stations. The handbook that opens up a whole world of airwaves action. A must for the serious and not so serious amateur! Cat B-2088

Size: 225 × 250mm

\$29⁹⁵



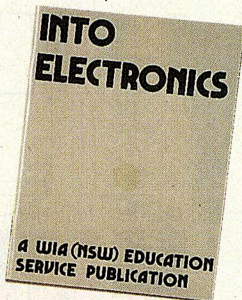
Into Electronics

86 pages

An introductory course into electronics from the Wireless Institute Of Australia Educational Service. An excellent educational production providing information and fundamental theory of electronics. Each chapter gives simple experiments and revision questions. Cat B-2313

Size: 185 × 245mm

\$6⁹⁵



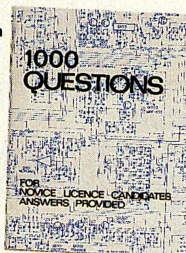
1000 Questions for Novice Candidates

Ken Hargreaves, Dave Wilson, Rex Black — 116 pages

Published by the W.I.A. 4th Edition. For the aspiring amateur this book is essential. Asks the questions most likely to arise in the exams. Covers all aspects from electrical laws to regulations and test equipment, etc. Cat B-2316

Size: 194 × 150mm

\$8⁹⁵



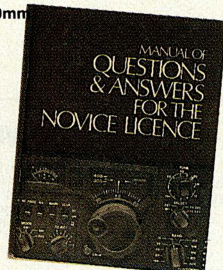
Manual of Q & A Yaesu Logbook for the Novice Licence

Keith Howard — 100 pages

For the would-be novice this book asks a question, then gives the answer in simple but explicit terms, an excellent means of learning. Covers everything from the ohm to regulations. Cat B-2315

Size: 243 × 180mm

\$8⁹⁵



Yaesu Logbook

Yaesu — 50 pages

The finishing touch to your Yaesu station (and will really life the level of the Ke****d or I**M station!). Provision for all QSO details including QSL data. Cat B-2029

Size: 300 × 215mm

\$6⁹⁵



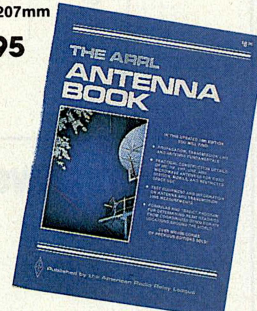
ARRL Antenna Book

Gerald L. Hall — 327 pages

The latest revision of this extremely popular ARRL handbook. Information, data and technical tips on all types of antennas, plus many antenna projects to build. A must for every shack. Cat B-2207

Size: 275 × 207mm

\$29⁹⁵



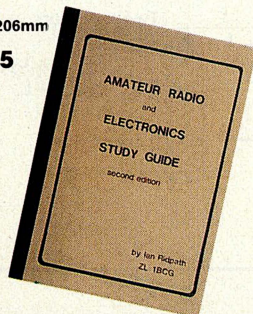
Amateur Radio and Electronics Study Guide

Ian Ridpath — 210 pages

A clear and concise study manual for the amateur syllabus. Designed to make learning easier in a short uncluttered text with large clear illustrations in Students-Own-Note form. This invaluable publication has been tailored to fill the gap between high level amateur radio handbooks and over simplified beginners manuals. Cat B-2319

Size: 90 × 206mm

\$16⁹⁵



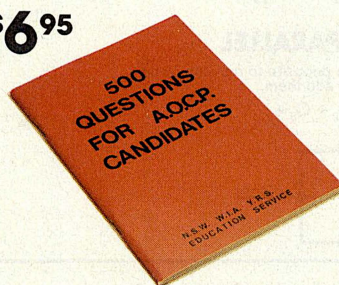
500 Questions for A.O.C.P. Candidates

Bill Dunn, Fred Santos, Keith Hargreaves, Dave Wilson — 94 pages

NSW W.I.A. Y.R.S. Education Service. Written to aid candidates preparing for the multiple choice format A.O.C.P. exams. Contains 500 questions with answers and a proposed syllabus for study for the A.O.C.P. Cat B-2318

Size: 234 × 165mm

\$6⁹⁵



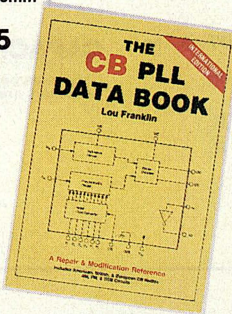
CB PLL Data Book

Lou Franklin — 110 pages

A mine of information for the avid CB'er. Contains details of the phase locked loops used in just about every CB ever made. So what? It also tells you how to modify the PLL circuitry to give more channels, to push it, to repair it, to do just about anything except talk. (They're working on that one!). And if you repair CB's, this is indispensable for the technical data it gives — data you won't find anywhere else. Cat B-2326

Size: 250 × 178mm

\$17⁹⁵



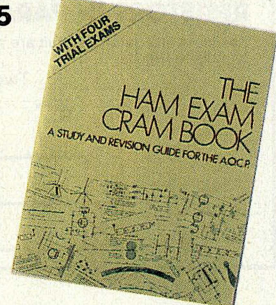
The Ham Exam Cram Book

Keith Howard — 72 pages

A study and revision guide for the A.O.C.P. This book is not intended to replace recommended text books but it will certainly sharpen your knowledge and prepare you for the theory exam without wasting effort. Contains concisely explained and clearly illustrated examples as well as many multiple choice questions with answers explained. Cat B-2314

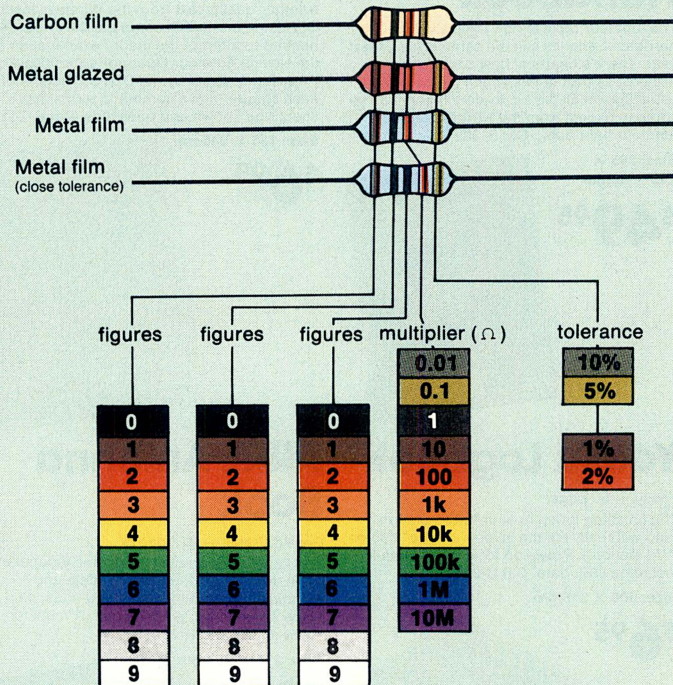
Size: 200 × 163mm

\$7⁹⁵

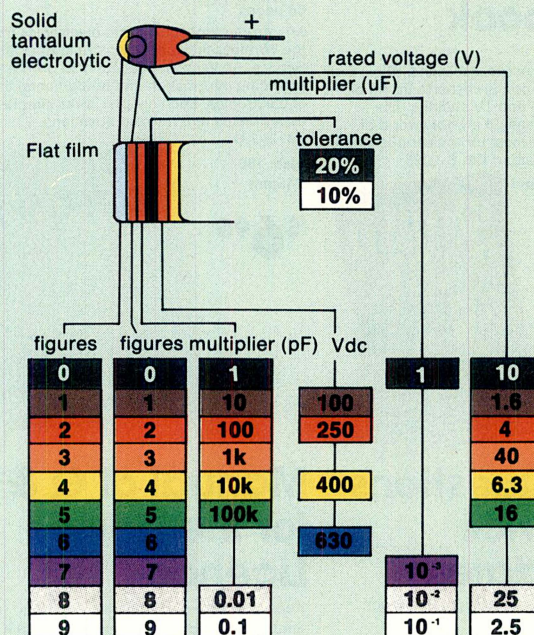


Resistor and Capacitor Colour Codes

Resistors



Capacitors



CIRCUIT LAWS

OHM'S LAW

The relationship between voltage, current and resistance in a circuit is defined by Ohm's law, which may be simply stated by the formula:

$$E = I \times R$$

where E is in volts, I is in amps and R is in ohms. This can be turned around to look like:

$$I = \frac{E}{R}$$

$$R = \frac{E}{I}$$

POWER IN A CIRCUIT

When a current passes through a component, energy is given off in the form of heat. Normally, we associate resistors with this action: that's part of their job. We often need to know how much power is being given off by a resistor - and we find this out by using the formula:

$$W = E \times I$$

where W is in watts, E is in volts and I is in amps. This formula too can be turned around if required:

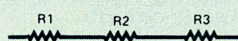
$$E = \frac{W}{I}$$

$$I = \frac{W}{E}$$

RESISTORS IN SERIES

Resistors in a series circuit are simply added together to find the total resistance. In other words, a 10 ohm, 150 ohm and 1000 ohm-resistor connected in series would be the equivalent of a single 1,160 ohm resistor. The formula is:

$$R_T = R_1 + R_2 + R_3 + \dots$$



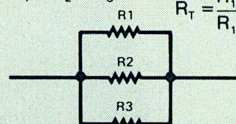
RESISTORS IN PARALLEL

Resistors in a parallel circuit are a little more difficult. The formula to use is:

$$R_T = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \dots}$$

Two resistors in parallel

$$R_T = \frac{R_1 \times R_2}{R_1 + R_2}$$



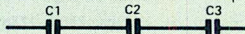
CAPACITORS IN SERIES

Capacitors in series, on the other hand, are similar to resistors in parallel. You add the reciprocals:

$$C_T = \frac{1}{\frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \dots}$$

Two capacitors in series

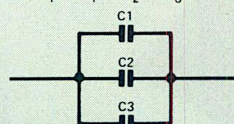
$$C_T = \frac{C_1 \times C_2}{C_1 + C_2}$$



CAPACITORS IN PARALLEL

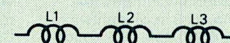
Capacitors behave exactly the opposite to resistors; when capacitors are in parallel, you add them;

$$C_T = C_1 + C_2 + C_3 + \dots$$



INDUCTORS IN SERIES

$$L_T = L_1 + L_2 + L_3 + \dots$$

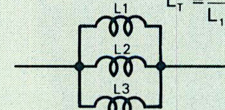


INDUCTORS IN PARALLEL

$$L_T = \frac{1}{\frac{1}{L_1} + \frac{1}{L_2} + \frac{1}{L_3} + \dots}$$

Two inductors in parallel

$$L_T = \frac{L_1 \times L_2}{L_1 + L_2}$$



RESISTORS

Resistors are usually so small it is impractical to try and print each one with its value, so they are marked with a code printed on them in bands of different coloured paint. These bands give us the resistor's value.

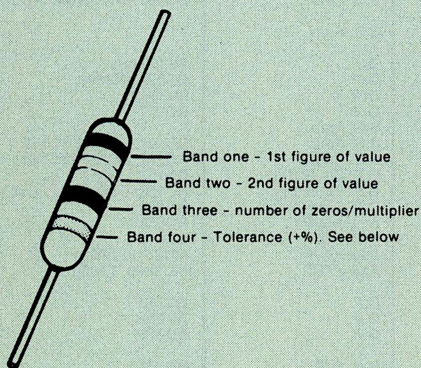
Depending on the tolerance of the resistor there will be either 4 bands (5% E24 Series) or 5 bands (1% E96 series).

How to read common 5% resistors (4 bands):

Start with the band closest to one end or, if it is difficult to work out, the band furthest away from the gold or silver band. Take the resistor shown below: let's say that the first band is orange - from the table this means three. If the second band is white, then its value is 9, from the table. And finally if the third band is brown we have a value of 2, so we add one zero to the first two figures: 3, 9 and 0 - or 390 ohms.

The fourth, or tolerance band, is silver: 10%. Therefore, the resistor is 390 ohms, 10% tolerance (or somewhere between 390 -10% and 390 +10%, or 351 and 429 ohms). This is more than adequate for most circuit requirements. Resistors are available which are 'spot on' in value - however, these are not required in most circuits, and are often very, very expensive.

WHAT THEY MEAN:



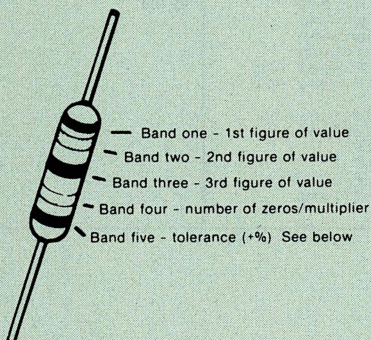
Tolerance band colours: Red 2%, Gold 5%, Silver 10%, No band 20%.

Note how the bands are closer to one end of the resistor than the other.

1% Resistors (5 bands)

These are read in a similar manner. However, the first three bands give a three figure value. The fourth band gives the number of zeros/multiplier and the fifth is the tolerance.

WHAT THEY MEAN:



Tolerance band colours: Brown 1%, Red 2%, Gold 5%, Silver 10%, No band 20%.

Some circuits show capacitor and resistor values as straight figures - e.g. 4.7 pF. Others replace the decimal point with the first letter of the sub-multiple (e.g. 4p7 is the same as 4.7pF). Similarly with resistors: 6k8 means the same as 6.8k.

PREFERRED VALUES

The system of preferred component values was developed to provide a logical progression whereby each higher value always represents an increase by the same factor or percentage, according to the percentage tolerance on which the table is based. (The mathematical term is "geometric progression".)

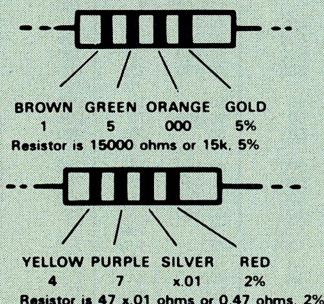
Values given for each series appear in every decade.

series E12 (10%)							
10	12	15	18	22	27	33	39
47	56	68	82				

series E24 (5%)							
10	11	12	13	15	16	18	20
22	24	27	30	33	36	39	43
47	51	56	62	68	75	82	91

series E96 (1 1/2%)							
100	102	105	107	110	113	115	118
121	124	127	130	133	137	140	143
147	150	154	158	162	165	169	174
178	182	187	191	196	200	205	210
215	221	226	232	237	243	249	255
261	267	274	280	287	294	301	309
316	324	332	340	348	357	365	374
383	392	402	412	422	432	442	453
464	475	487	499	511	523	536	549
562	576	590	604	619	634	649	665
681	698	715	732	750	768	787	806
825	845	866	887	909	931	953	976

RESISTOR VALUE EXAMPLES



METRIC MULTIPLIERS

Throughout this book, and indeed, most electronic publications, metric multipliers are used to simplify and shorten component values, etc.

For example, capacitance is measured in Farads - but the Farad is a huge unit of measurement, much too large to be of any use in expressing capacitor values. So we use a suitable metric sub-multiple to save a lot of figures. Instead of saying, for example, .000000000001 Farads we say 1 pico Farad (1 pF).

We have used only micro Farads (uF) and pico Farads (pF) in this book; however, some publications use the abbreviation nano Farad (nF) so you should get to know these eventually, too.

Abbreviation	Means	Multiply unit by	Or
p	pico	.000000000001	10 ⁻¹²
n	nano	.000000001	10 ⁻⁹
u	micro	.000001	10 ⁻⁶
m	milli	.001	10 ⁻³
-	UNIT	1	10 ⁰
k	kilo	1 000	10 ³
M	mega	1 000 000	10 ⁶

1000 pico units = 1 nano unit
1000 nano units = 1 micro unit
1000 micro units = 1 milli unit
1000 milli units = 1 unit
1000 units = 1 kilo unit
1000 kilo units = 1 mega unit

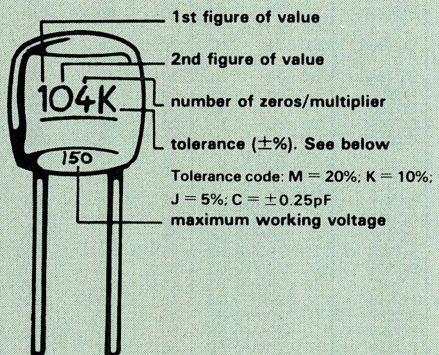
CAPACITORS

Most capacitors will have their value printed on them. However, there are a number of capacitor manufacturers who use the 'IEC' code. This code is a numerical code, but works in a similar way to the resistor colour code: two figures followed by a multiplier. There is often a single letter code showing tolerance.

The code is worked out in picofarads, so you may have to use the appropriate metric multiplier.

A capacitor may have a code '104K'. This decodes as follows - 0.1uF, 10%. The first two figures give us 10, the third figure gives us 0000, and the latter 10%. Therefore, the capacitor is 10 0000pF, 10%. We normally express this as 0.1uF - capacitors with a value below 001uF are expressed in picofarads.

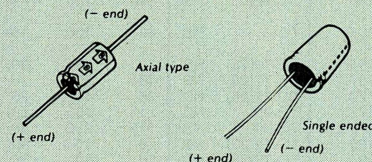
There may be a further figure marked - this would be the voltage rating of the capacitor (the maximum voltage at which you can use that capacitor).



CAPACITORS AND THEIR USES

Aluminium Electrolytic Capacitors

Ideal for use in filtering or smoothing rectified A.C. energy storage as in Power Supplies. Also used for bypassing and coupling in audio applications and the timing element for non critical circuits.



Solid Tantalum Capacitors

Lower leakage High reliability, long life and offer a size advantage.

Ceramic Capacitors

Offer low cost and high capacitance in a small physical volume. There are generally two types.

For tight tolerance and high stability in radio frequency (RF) tuned circuits.

Bypass capacitors in RF and in digital circuits for spike suppression and power supply filtering.

Paper Capacitors

An original construction of capacitors for use in A.C. circuits. Still used for power factor correction in mains supply applications. For example in Lighting and electric motors.

Polyester Capacitors

Lowest cost, most widely used for general purpose application.

Polycarbonate Capacitors

Offer low temperature coefficient and lower dielectric losses at high frequency. Most often chosen for temperature stability characteristics.

Polystyrene Capacitors

Usually chosen for applications requiring tight tolerance coupled with high stability. Predictable temperature coefficient used in conjunction with particular ferrite coils makes highly stable tuned circuits or oscillators.

Polypropylene Capacitors

Offer very low dielectric losses rivaling polystyrene. Suitable for high power inverters and converters and T.V. deflection.

BIPOLAR TRANSISTORS

TYPE	CASE	POL MAT	Vce	Vcb	IC mA	Vces @ IC	Hfe @ IC mA	MHz Ft @	IC mA	Ptot mW	USE	COMPARABLE TYPES
AC126	TO-1	PG	12	32	100		140 2	1.7 10	500		Audio driver	2N406
AC127	TO-1	NG	16	32	500		105 50	1.5 10	340		Audio O/P	AC187
AC128	TO-1	PG	16	32	1000	0.6 1A	60-175 300	1 10	1W		Audio O/P	AC188
AC132	TO-1	PG	12	32	200	0.35 200	115 50	1.3 10	216		Audio O/P	AC188
AC187	TO-1	NG	15	25	1000	0.8 1A	100-500 300	1 10	1W		Audio O/P	AC127
AC188	TO-1	PG	15	25	1000	0.6 1A	100-500 300	1 10	220		Audio O/P	AC128
AD161	PT1	NG	20	32	3000	0.6 1A	80-320 500	0.02 300	4W		Audio Amp.	AD165, 2N1218, 2N1292
AD162	PT1	PG	20	32	3000	0.4 1A	80-320 500	0.015 300	6W		Audio Amp.	AD143, AD152, AD147
AF116	TO-7	PG	15	32	10		150 1	75 1	50		H.F. Amp.	AF135, AF136, 2N3127
ASZ15	TO-3	PG	60	100	10A	0.4 10A	20-55 1A	0.2 1A	30W		H.C. Sw.	OC28
ASZ18	TO-3	PG	32	100	10A	0.4 10A	30-110 1A	0.22 1A	30W		H.C.Sw.	O.C.36
BC107	TO-18	NS	45	50	100	0.2 10	110-450 2	300 10	300		S.S. Amp.	BC207, BC147, BC182
BC108	TO-18	NS	20	30	100	0.2 10	110-800 2	300 10	300		S.S. Amp.	BC208, BC148, BC183
BC109	TO-18	NS	20	30	100	0.2 10	200-800 2	300 10	300		Low Noise S.S. Amp.	BC209, BC149, BC184
BC109	TO-18	NS	20	30	100	0.2 10	200-800 2	300 10	300		Low Noise S.S. Amp.	BC209C, BC184C, BC149C
BC157	SOT-25	PS	45	50	100	0.25 10	75-260 2	150 10	300		S.S. Amp.	BC177, BC307, BC212
BC158	SOT-25	PS	25	30	100	0.25 10	75-500 2	150 10	300		S.S. Amp.	BC178, BC308, BC213
BC159	SOT-25	PS	20	25	100	0.25 10	125-500 2	150 10	300		S.S. Amp.	BC179, BC309, BC214
BC177	TO-18	PS	45	50	100	0.25 10	75-260 2	150 10	300		S.S. Amp.	BC157, BC307, BC212
BC178	TO-18	PS	25	30	100	0.25 10	75-500 2	150 10	300		S.S. Amp.	BC158, BC308, BC213
BC179	TO-18	PS	20	25	100	0.25 10	125-500 2	150 10	300		S.S. Amp.	BC159, BC309, BC124
BC182(L)	SOT-30 (TO-92/74)	NS	50	60	200	0.25 10	100-480 2	150 10	300		S.S. Amp.	BC107, BC207, BC147
BC183(L)	SOT-30 (TO-92/74)	NS	30	45	200	0.25 10	100-850 2	150 10	300		S.S. Amp.	BC108, BC208, BC148
BC184(L)	SOT-30	NS	30	45	200	0.25 10	250-850 2	150 10	300		Low Noise High Gain	BC109, BC209, BC149
BC207	TO-106	NS	45	50	100	0.25 10	110-220 2	150 10	300		S.S. Amp.	BC107, BC182, BC147
BC208	TO-106	NS	20	25	100	0.25 10	110-800 2	150 10	200		S.S. Amp.	BC108, BC183, BC148
BC209	TO-106	NS	20	25	110	0.25 10	200-800 2	150 10	200		Low Noise High Gain	BC109, BC184, BC149
BC213(L)	SOT-30 (TO-92/74)	PS	30	45	200	0.25 10	80-400 2	200 10	300		S.S. Amp	BC308, BC158, BC178
BC214(L)	SOT-30 (TO-92/74)	PS	30	45	200	0.25 10	80-400 2	200 10	300		S.S. Amp	
BC327	TO-92(VAR)	PS	45	50	800	0.7 500	100-600 100	100 10	800		O/P	2N3638
BC328	TO-92(VAR)	PS	25	30	800	0.7 500	100-600 100	100 10	800		O/P	BC327, 2N3643
BC337	TO-92(VAR)	PS	45	50	800	0.7 500	100-600 100	200 10	800		O/P	2N3642
BC338	TO-92(VAR)	NS	25	30	1000	0.7 500	100-600 100	200 10	800		O/P	BC337
BC546	TO-92(VAR)	NS	80	80	100	0.6 100	125-500 2	300 10	500		S.S. Amp.	
BC547	TO-92(VAR)	NS	45	50	100	0.6 100	110-800 2	300 10	500		S.S. Amp.	BC107, BC207, BC147
BC548	TO-92(VAR)	NS	30	30	100	0.6 100	110-800 2	300 10	500		S.S. Amp.	BC108, BC208, BC148
BC557	TO-92(VAR)	PS	45	50	100		110-330 2	150 500	500		G.P. Small Sig.	BC157, DS557
BC558	TO-92(VAR)	PS	30	30	100		75 2	150 500	500		G.P. Small Sig.	BC158, DS558
BC559	TO-92(VAR)	PS	30	30	100		125-600 2	150 500	500		G.P. Small Sig.	BC159
BC635	TO-92(74)	NS	45	45	1A	0.5 500	40-250 150	130 500	1W		Audio O/P	BC639
BC636	TO-92(74)	PS	45	45	1A	0.5 500	40-250 150	130 500	1W		Audio O/P	BC640
BC639	TO-92(74)	NS	80	100	1A	0.5 500	40-160 150	130 50	1W		Audio O/P	MU9610, TT801
BC640	TO-92(74)	PS	80	100	1A	0.5 500	40-160 150	50 50	1W		Audio O/P	MU9660, TT800
BCY70	TO-18	PS	40	50	200	0.5 50	50 10	250 50	350		G.P.	BC212
BCY71	TO-18	PS	45	45	200	0.5 50	100-600 10	200 50	350		G.P.	BC212
BCY72	TO-18	PS	25	25	200	0.5 50	50 10	200 50	350		G.P.	BC213
BD137	TO-126	NS	60	60	1A	0.5 500	40-160 150	250 500	8W		G.P. O/P	BD139
BD138	TO-126	NS	60	60	1A	0.5 500	40-160 150	75 500	8W		G.P. O/P	BD140
BD139	TO-126	NS	60	100	1A	0.5 500	40-160 150	250 500	8W		G.P. O/P	40409
BD140	TO-126	NS	80	100	1A	0.5 500	40-160 150	75 500	8W		G.P. O/P	40410
BD262	TO-126	PS	60	60	4A	2.5 1.5A	750 1.5A	7 1.5A	36W		High Gain Darl. O/P	BD266
BD263	TO-126	NS	60	80	4A	2.5 1.5A	750 1.5A	7 1.5A	36W		High Gain Darl. O/P	BD267
BD266A	TO-220	PS	80	80	8A	2 3A	750 3A	7 3A	60W		High Gain Darl. O/P	
BD267A	TO-220	NS	80	100	4A	2 3A	750 3A	7 3A	60W		High Gain Darl. O/P	
BD681	TO-126	NS	100	100	4A		500 4A	1 4A	40W		Darlington O/P	BD263
BD682	TO-126	PS	100	100	4A		750 1.5A	1 1.5A	40W		Darlington O/P	BD263
BDY20	TO-3	NS	60	100	15A	1.1 4A	20-70 4A	1 4A	115		Power O/P	2N3055
BF115	TO-72(28)	NS	30	50	30		45-165 1	230 1	145		V.H.F. Amp	
BF167	TO-72(28)	NS	40	25			26 4	350 4	130		T.V. I.F. Amp	
BF173	TO-72(28)	NS	25	40	25		92 7	550 5	230		T.V. I.F. Amp	
BF178	TO-39	NS	115	185	50		20 30	120 10	600		T.V. Video Amp	BF336
BF179	TO-39	NS	115	250	50		20 20	120 10	600		T.V. Video Amp	BF338
BF180	TO-72(25)	NS	20	30	20		13 2	675 2	150		U.H.F. Amp	BF200
BF184	TO-72(28)	NS	20	30	30		75-750 1	300 1	145		H.F. Amp	
BF185	TO-72(28)	NS	20	30	30		34-140 1	220 1	145		H.F. Amp	BF195
BF194	SOT-25/1	NS	20	30	30		65-220 1	260 1	250		H.F. Amp	
BF195	SOT-25/1	NS	20	30	30		35-125 1	200 1	250		H.F. Amp	BF185
BF199	TO-92 (VAR)2	NS	25		25		37 7	550 500	500		H.F. Amp	BF180
BF200	TO-72(25)	NS	20	30	20		15 3	650 3	150		V.H.F. Amp	BF180
BF336	TO-39	NS	180	185	100		20-60 30	130 30	3W		Video Amp	
BF337	TO-39	NS	200	300	100		20-60 30	130 30	3W		Video Amp	
BF338	TO-39	NS	225	250	100		20-60 30	130 30	3W		Video Amp	
BF469	TO-126	NS	250	250	50		50 25	60 1.8W			G.P. High V. Amp	
BF470	TO-126	PS	250	250	50		50 25	60 1.8W			G.P. High V. Amp	
BFR90	SOT-37(2)	NS	15	20	25		25-250 14	5GHz 14	180		Wide Band Amp	
BFR91	SOT-37(2)	NS	12	15	35	0.3 30	25-250 30	5GHz 30	180		Wide Band Amp	
BFY50	TO-39	NS	35	80	1A	0.2 150	30 150	60 50	2.85W		G.P.	
BFY51	TO-39	NS	30	60	1A	0.35 150	40 150	50 50	2.85W		G.P.	
BFY52	TO-39	NS	20	40	1A	0.35 150	60 150	50 50	2.85W		G.P.	
BFY90	TO-70(25)	NS	30	30	25		25-125 2	1.3GHz 25	200		U.H.F. Amp	

PLEASE NOTE:

Not all devices shown in this section are stocked by Dick Smith Electronics. In most cases, however the specifications should enable substitution to be made with a transistor from the DSE range in all but the most critical applications. Most circuits published by the electronics magazines deliberately use 'garden variety' transistors for which a large number of substitutes are possible. If a device is critical they will usually specify it as such.

While every effort is made to ensure that this data is correct and as up-to-date as possible, no responsibility will be accepted for its use or consequences arising therefrom. If in doubt, please consult manufacturer's data sheets.

NOTE: Some small signal transistors may be supplied in a TO-92 case with a 'PN' prefix. The electrical specifications are the same; only the case is changed. See case outline TO-92(72) for pin detail.

BIPOLAR TRANSISTORS

TYPE	CASE	POL MAT	Vce	Vcb	IC mA	Vces @ IC	Hfe @ IC mA	MHz Ft @	IC mA	Ptot mW	USE	COMPARABLE TYPES		
BUX80	TO-3	NS	400		10A	1.5	5A			100W	Deflection, High current Sw.G.P. Power S.S. Amp			
DS547	TO-92	NS	45	50	100	0.6	100	110-800	2	300	10	500	BC107, BC207, BC147	
DS548	TO-92	NS	30	30	100	0.6	100	110-800	2	300	10	500	BC108, BC208, BC148	
DS549	TO-92	NS	30	30	100	0.6	100	200-800	2	300	10	500	BC109, BC209, BC149	
DS557	TO-92	PS	45	50	100	0.25	100	75-260	2	150	10	300	BC177, BC307, BC212	
DS558	TO-92	PS	25	30	100	0.25	100	75-100	2	150	300	S.S.Amp	BC178, BC308, BC213	
MJ802	TO-3	NS	90	100	30A	0.8	7.5A	25-100	7.5A	2	1A	200W	HighPower O/P	
MJ2501	TO-3	PS	80	80	10A	2	5A	1000	5A			150W	Darl. O/P	MJ2955
MJ2955	TO-3	PS	60	70	15A	1.1	4A	20-70	4A	4	500	115W	High Power O/P	2N4908, 2N4909, 2N5871
MJ3001	TO-3	NS	80	80	10A	2	5A	1000	5A			150W	Darl. O/P	
MJ4502	TO-3	PS	90	100	30A	0.8	7.5A	25-100	7.5A	2	1A	200W	High Power O/P	
MJ15003	TO-3	NS	140	140	20A			25-150		2		250W	HighPower O/P	
MJ15004	TO-3	PS	140	140	20A			25-150		2		250W	High Power O/P	
MJE340	77-03/199-04NS		300		500	0.75	100	30-240	50			20W	G.P. High V. Power	
MJE350	77-03/199-04PS		300		500	0.77	100	30-240	50			20W	G.P High V. Power	
MJE2955	90-05/199-04PS		60	70	10A	1.1	4A	20-100	4A	2	500	75W	G.P. Power	TIP2955
MJE3055	90-05/199-04NS		60	70	10A	1.1	4A	20-100	4A	2	500	75W	G.P. Power	TIP3055
MRF629	79-03	NS	16	36	400			20-200	100			5W	R.F Power UHF	
MRF660	TO-220AB	NS	16	36	2.4A			20-160	250			25w	R.F. Power UHF	
MU9610	152	NS	30	40	2A	0.4	1.5a	80-400	350	70	250	1W	O/P	TT801
MU9611	152-01	NS	30	40	2A	0.4	1.5A	80-400	350	70	250	1W	O/P	TT801
MU9660	152	PS	30	40	2A	0.4	1.5A	80-400	350	70	250	1W	O/P	TT800
MU9661	152-01	PS	30	40	2A	0.4	1.5a	80-400	350	70	250	1w	O/P	TT800
NSD106	TO-202(35)	NS	100	140		2.9	100	50-150	100	80	50		Driver-O/P	
NSD206	TO-202(35)	PS	100	100		2.1	100	50-150	100	150	50		Driver-O/P	
OC26	TO-3	PG	30	50	3.5A	0.7	3A	300-100	1A	0.3	500	32W	G.P. O/P	AD149
OC28	TO-3	PG	60	100	10A	10A	0.4	20-55	1A	0.2	1A	30W	H.C. Switch	ASZ15
OC44N	TO-1	PG	5	15	10			45-225	1	7.5	1	85	R.F. Amp	AF125, AF135, AF172
OC45	GT-3	PG	5	15	10			25-125	1	3	3	85	R.F. Amp	AF132, AF185, AF196
OC70	GT-3	PG	10	30	50			30	5	0.5		125	G.P. Amp	AC121, AC126, 2N1190
OC71	GT-3	PG	10	30	50			30-75	3	0.6		125	G.P.Amp	AC126, 2N2429
OC72	GT-6	PG	16	32	250			45-120	10	0.35		165	Audio O/P	AC122, AC125, AC162
OC74N	TO-1	PG	10	20	300	0.6	300	60-150	50	0.1		550	Audio O/P	AC125, AC180, AC192
OC75	GT-3	PG	10	30	50			60-130	3	0.1		125	G.P. Amp	AC173, AC192
TIP31B	TOP-66	NS	80	80	3A	1.2	3A	20	500	3	500	40W	Power Amp-Sw	
TIP32B	TOP-66	PS	80	80	3A	1.2	3A	20	500	3	500	40w	Power Amp-Sw	
TIP2955	TOP-3	PS	70	100	15A	1.1	4A	20	4A	0.8		90W	Power Amp-Sw	MJE2955
TIP3055	TOP-3	NS	70	100	15A	1.1	4A	20	4a	0.8		90W	Power Amp-Sw	MJE3055
TT800	TO-39(Mod)	PS	60	60	1A			40-120	100	100		800	Audio Driver-Sw	TT797, NSD206, 2N4030
TT801	TO-39(Mod)	NS	60	80	1A			40-120	150	60		800	Audio Driver-Sw	TT798, NSD106, 2N3019
2N301	TO-3	PG	32	40	3A			50	1A	0.2	1A	11W	Audio O/P	AT1138, OC26
2N706A	TO-18	NS	15	25	200			20	10	200		300	High S.Sw	
2N2222A	TO-18	NS	40	75	800	1	500	75	10	300	20	500	High S.Sw	
2N2904A	TO-39	PS	40	60	600	1.6	500	40-120	150	200	50	600	High S.Sw	
2N2905A	TO-39	PS	60	60	600	1.6	500	100-300	150	200	50	600	High S.Sw	
2N2926	TO-92(74)	NS	25	25	100			150	2	100		200	G.P.	BC108 etc
2N3019	TO-39	NS	80	140	1A	0.5	500	50-100	500	100	50	800	H.F. Amp	
2N3053	TO-39	NS	40	60	700	1.4	150	50-250	150	100	50	2.86W	G.P. Switch	BD137
2N3054	TO-66	NS	55	90	4A	0.1	200	25	500	0.8	200	25W	Audio O/P	TIP31B
2N3055	TO-3	NS	60	90	15A	1.1	4A	20	4A	0.8	1A	115W	O/P - Sw	BDY20
2N3563	TO-106	NS	12	30	50			20-200	8	600	8	200	R.F. - I.F. Amp & Ass	BF173
2N3564	TO-106	NS	15	30	100	0.3	20	20-500	15	400	15	200	R.F. - I.F. Amp & Ass	BF167
2N3565	TO-106	NS	25	30	50	0.35	1	150-600	1	400	1	200	Low Level Amp	BC108, BC208
2N3566	TO-105	NS	30	40	200	1	100	150-600	10	40	30	300	G.P. Amp & Sw	BC183
2N3567	TO-105	NS	40	80	500	0.25	150	40-120	1	60	50	300	G.P. Amp & Sw	BC337
2N2568	TO-105	NS	60	80	500	0.25	150	40-120	1	60	50	300	G.P. Amp & Sw	
2N3569	TO-105	NS	40	80	500	0.25	150	100-300	1	60	50	300	G.P. Amp & Sw	
2N3638	TO-105	PS	25	25	500	0.25	50	30	50	100	50	300	G.P. Amp & Sw	BC327
2N3638A	TO-105	PS	25	25	500	0.25	50	100	50	150	50	300	G.P. Amp & Sw	BC558
2N3640	TO-106	PS	12	12	80	0.2	10	30-120	10	300	10	200	Saturated Switch	
2N3641	TO-105	NS	30	60	500	0.22	150	40-120	150	250	50	350	G.P. Amp & Sw	BC337
2N3642	TO-105	NS	45	60	500	0.22	150	40-120	150	250	50	350	G.P. Amp & Sw	BC337
2N3643	TO-105	NS	30	60	500	0.22	150	100-300	150	250	50	350	G.P. Amp & Sw	BC337
2N3644	TO-105	PS	45	45	500	1	300	115-300	50	200	20	300	G.P. Amp & Sw	BC327
2N3645	TO-105	PS	60	60	500	1	300	115-300	500	200	20	300	G.P.Amp & Sw	
2N3702	TO-92(74)	NS	25	40	200	0.25	50	60-300	50	100	50	360	G.P. Amp & Sw	BC213
2N3866	TO-39	NS	30	55	400			10-200	50	500	50	1W	V.H.F. Amp	
2N3904	TO-92	NS	40	60	200			100-300	1mA			310	Low Level Amp	BC167A, BF194
2N3905	TO-92	PS	40	40	200	0.4	50	50-200	1mA	200	20	310	G.P. Amp & Sw	
2N3948	TO-39	NS	20	36	400			15	50	700	50	1W	V.H.F. Amp	
2N4030	TO-39	PS	60	60	1A	0.5	500	15	100	260	100	800	G.P. Amp & Sw	
2N4250	TO-106	PS	40	40	100	0.25	10	250-400	0.1	50		200	Low Level Amp	BC559
2N4258	TO-106	PS	12	12	50	0.5	50	30-120	10	700	10	200	Saturated Sw	
2N4292	TO-92	NS	15	30	50	0.6	10	20	3	600	4	200	Saturated Sw	
2N4403	TO-92	PS	40	40	600			100-300	10			310	G.P.	BC307A, 2N2904
2N4427	TO-39	NS	20	40	400	0.4	100	10-200	100	500	50	1W	VHF/UHF/Driver	2N3866
2N4429	TO-39	NS	20	40	400			10-200	100	500	50	1W	V.H.F. Amp	
2N5589	MT-71C	NS	18	36	600			5	100	175	3W	15W	H.F. Mobile R.F.	
2N5590	MT-72C	NS	18	36	2A			5	250	175	10W	30W	H.F. Mobile R.F.	
2N5591	MT-72C	NS	18	36	4A			5	500	175	25W	70W	H.F. Mobile R.F.	
2N5871	TO-3	PS	60	60	7A	1	4A	20-100	2.5A	4	250	100W	Power Transistor	2N5872, 2N4908, MJ2955
2N6084	MT-72C	NS	18	36			6A	5X	1A	175X	40W	80W	VHF Output	B40-12
2SA733														

FETS

FETS		BVGSS		VGS(OFF)				IDSS(mA)				Yfs(umhos)			Ptot	Use/Comments
Case		V @	IG(uA)	Min	Max @ VDS	ID(nA)	Min	Max @ VDS	VGS	Min	Max @ VDS	Max	Min	mW		
BF245B	TO-92 Var 1	60	1	0.5	8	15	10	6	15	15	0	3000	6500	15	300	N/CH Junction Audio to H.F.
BF981	SOT-103	>6		2.5			20uA	4	25	10	0	14000	typ		225	N/CH Dual Gate MOS. VHF Amp.
BFW10	TO-72(25)	30						8	20	15	0		6500		300	N/CH Junction Audio to H.F.
BFW11	TO-72(25)	30						4	10	15	0		6500		300	N/CH Junction Audio to H.F.
BFW61	TO-72(25)	25						2	20	15	0		6500		300	N/CH Junction Audio to H.F.
MEM631	W-25	± 6	± 10		4	15	200uA	5	30	15	0	1600	typ	15	500	N/CH Dual Gate MOS. VHF Amp.
MFE131	TO-72(2)	± 6	± 10		4	15	200uA		30	15	0	8000	20000	15	300	N/CH Dual Gate MOS. VHF Amp.
MPF102	TO-92(72)	25	10	0.5	8	15	2	2	20	15	0	2000	7500	15	310	N/CH Junction — VHF
MPF103	TO-92(72)	25	1		6	15	1	1	5	15	0	1000	5000	15	310	N/CH Junction — Audio Sw.
MPF104	TO-92(72)	25	1		7	15	1	2	9	15	0	1500	5500	15	310	N/CH Junction — Audio Sw.
MPF105	TO-92(72)	25	1		8	15	10	4	16	15	0	2000	6000	15	310	N/CH Junction — Audio Sw.
MPF106	TO-92(72)	25	1	0.5	4	15	10	4	10	15	0	2500	7000	15	310	N/CH Junction — RF
MPF121	206(B)	± 6	± 10		4	15	200uA	5	30	15	0	10000	20000	15	500	N/CH Dual Gate MOS. VHF Amp.
MPF131	262	± 6	± 10		4	15	200uA	3	30	15	0	8000	20000	15	350	N/CH Dual Gate MOS. VHF Amp.
2N4342	TO-92(72)	25	10		5	10		12	30	10	0		6000	10	180	P/CH Junction — Audio Sw.
2N4360	TO-92(72)	40	10	0.5	6	15	100	1	5	15	0	1000	5000	15	310	P/CH Junction — Audio Sw.
2N5245	TO-92/77	30	1	1.5	6	10		1	18		0		5800	typ 10	360	N/CH VHF/UHF Mixer
2N5457	TO-92(72)	25	1	0.5	6	15	10	1	5	15	0	1000	5000	15	310	N/CH Junction — Audio Sw.
2N5458	TO-92(72)	25	1	1	7	15	10	2	6	15	0	1500	5500	15	310	N/CH Junction — Audio Sw.
2N5459	TO-92(72)	25	1	2	8	15	10	4	9	15	0	2000	6000	15	310	N/CH Junction — Audio Sw.
2N5484	TO-92(72)	25	1	0.3	3	15	10	1	5	15	0	3000	6000	15	310	N/CH Junction — VHF
2N5485	TO-92(72)	25	1	0.5	4	15	10	4	10	15	0	3500	7000	15	310	N/CH Junction — VHF
2N5486	TO-92(72)	25	1	2	6	15	10	8	20	15	0	4000	8000	15	310	N/CH Junction — VHF
3SK40	TO-72(2)	± 6	± 10		4	15	200uA		25	15	0	8000		15	250	N/CH Dual Gate MOS. VHF Amp.
3SK121	2-6F1A	-5		-2.5	4	5	100uA	20	45	5	0	17000	typ	typ 10	200	N/CH UHF GaAs Dual Gate
40673	TO-72(2)	± 6	± 10	-2	typ	15	200uA		35	15	0	12000		15	330	N/CH Dual Gate MOS. VHF Amp.

POWER FETS		V _{DSS} (min)		I _D (max)		V _{DS(on)} /I _D		V _{GS(off)} I _D = 1mA		Power Diss	
Case		V @	I _D	A		V/A V _{GS} = 10V		min	V max	W	Use/Comments
VN46AF	TO-202 F	40	10uA	2.0		3.0/1.0		0.8	2.0	12.5	N-chan Enhancement Mode VMOS FET
VN66AF	TO-202 F	60	10uA	2.0		3.0/1.0		0.8	.20	12.5	N-chan Enhancement Mode VMOS FET
VN86AF	TO-202 F	80	10uA	2.0		4.0/1.0		0.8	2.0	12.5	N-chan Enhancement Mode VMOS FET
2SJ48	TO-3 F	-120	-10mA	-7		-12/-7 (VGD+0)		-0.15	-1.45	100	P-chan Enhancement Mode MOS FET
2SJ49	TO-3 F	-140	-10mA	-7		-12/-7		-0.15	-1.45	100	P-chan Enhancement Mode MOS FET
2SJ50	TO-3 F	-160	-10mA	-7		-12/-7		-0.15	-1.45	100	P-chan Enhancement Mode MOS FET
2SK133	TO-3 F	120	10mA	7		12/7		0.15	1.45	100	N-chan Enhancement Mode MOS FET
2SK134	TO-3 F	140	10mA	7		12/7		0.15	1.45	100	N-chan Enhancement Mode MOS FET
2SK135	TO-3 F	160	10mA	7		12/7		0.15	1.45	100	N-chan Enhancement Mode MOS FET

DIODES

TYPE	CASE	VR	IF (mA)	Cd (pF)	VF @	IF (mA)	IR (uA)	@ VR	Trr (nS)	Use/Comparable Types
Germanium										
AA119	DO-7	30	100	1.2	2.2	10	150	30	70	AM/FM Detection Point Contact
OA47	DO-7	25	110	3.5	0.45	10	100	25		Gold Bonded G.P. Switching
OA90	DO-7	20	45		1.5	10	450	20		G.P. Point Contact OA70, OA80
OA91	DO-7	90	50		1.9	10	180	75		G.P. Point Contact OA71, 79, 81
DSOA91	DO-7	50	30	1	1	5	200	10		G.P. OA91, 1N60
OA95	DO-7	90	50		1.5	10	110	0.75		G.P. Point Contact
Silicon										
BA100	DO-7	60	90	25	0.96	10	10	60		G.P. — Alloyed
BA102	DO-7	20		20-45	Cd Ratio 1.4 @	4/10 V/VV				Variable Capacitance
BA114	DO-7		20		0.7	1				Bias Stabilizer
BA234/4	DO-35	20	100	<2	1	100	0.1	15		UHF Sw.
BAW62	SOD-27	75	200		0.75	5	5	75	4	High Speed Silicon Sw.
BB119	DO-35	15		20-25 @ 4V	Cd Ratio >>1.3					Varicap — replaces BA102
BB122	DO-35	30		12 @ 3V	Cd Ratio 5.2		0.05	28		Varicap VHF UHF
OA200	DO-7	50	160	25	0.96	10	0.1	50		Small Signal — Alloyed
OA202	DO-7	150	160	25	0.96	10	0.1	150		Small Signal — Alloyed
1N914A	DO-35	75	75	4	1	10	5	75	4	Small Signal Sw. 1N4148
1N4148	DO-35	75	200	4	1	10	0.025	20	4	Small Signal Sw. 1N914A
1N4448	DO-35	75	300	4	1	100	0.025	6	4	G.P. Silicon Sw. 1N4148
5082-2800	DO-7	70	15	2	0.41	1	0.2	50	0.1	Schottky (Hot Carrier) UHF Detector, Mixer Switch

SCR's

TYPE	CASE	VDRM	IT (r.m.s.) (A)	IGT (mA)	VGT	PG (AV) (W)	IH (mA)	dv/dt (V/uS)	Comments (25°C)
C103B	TO-92	200	.8	.2 max	.8 max	.01	5 max	20 typ	(R _{GK} =1k)
C106Y	TO-202	30	4	.2 max	.8 max	.1	5 max	8 typ	(R _{GK} =1k)
C106D	TO-202	400	4	.2 max	.8 max	.1	3 max	8 typ	(R _{GK} =1k)
C122D	TO-220	400	8	25 max	1.5 max	.5	3 max	50 typ	(Gate o/c)
C122E	TO-220	500	8	25 max	1.5 max	.5	30 max	50 typ	(Gate o/c)
C164D	TO-48	400	16	40 — 80	2 typ				
C168D	TO-48	800	16	40 — 80	2 typ				
S4008	TO-220	400	8	25 max	1.5 max	.5	30 max	50 typ	(Gate o/c)
S6008L	TO-220	600	8	25 max	1.5 max	.5	30 max	50 typ	(Gate o/c)
TIC126E	TO-220	500	8	20 max	1.5 max	.5	40 max	100 typ	(Gate o/c)

TRIAC's

TYPE	CASE	VDRM	IT (r.m.s.) (A)	IGT (mA)	VGT	PG (AV) (W)	IH (mA)	dv/dt (V/uS)	(25°C)
BT139-500	TO-220	500	16	50	1.5(T _J = 25°C)	.5	30	100 min.	(Gate o/c)
Q-40006L4	TO-220	400	6	75 max. all modes	2.5 max. all modes	.9	60 max	100 typ	(Gate o/c)
SC141D	TO-220	400	6	50 "	2.5 "	.5	50 max	100 typ	(Gate o/c)
SC146D	TO-220	400	10	50 "	2.5 "	.5	50 max	150 typ	(Gate o/c)
SC151D	TO-220	400	15	50 "	2.5 "	.5	50 max	250 typ	(Gate o/c)
TIC246D	TO-220	400	16 *	75 "	2.5 "	.5	50 max		(* case temp. below 80°)
2N6341	TO-220	400	8		2.5 "	.5	75 max	5 typ	(commutating)

RECTIFIERS

TYPE	MAT	VR	IF(A)	VF @	IF(A)	IR(uA) @	VR	USE
A14P	S	1000	2.5	1.25	2.5	0.5	1000	Transient Protected (Controlled Avalanche)
A15P	S	100	5	1.1	5	5	100	G.P. Rectifier
A15B	S	200	5	1.1	5	5	200	Transient Protected (Controlled Avalanche)
BYX21/200/R	S	75	25	1.2	25	1.1mA	75	Automobile H. Duty Press fit.
BYX98/300	S	300	10	1.4	10	200	300	Power Rectifier Stud Mount
DS5404	S	200	3	1.1	3	5	200	G.P. Rectifier
EM4005	S	50	1	1.1	1	5	50	G.P. Rectifier
EM401	S	100	1	1.1	1	5	100	G.P. Rectifier
EM404	S	400	1	1.1	1	5	400	G.P. Rectifier
EM410	S	1000	1	1.1	1	5	1000	G.P. Rectifier
MR110	S	100	10					G.P. Stud Mount
MR410	S	400	10					G.P. Stud Mount
MR5108	S	1000	3	1.1	3	5	1000	G.P. Rectifier
IN3492/R	S	100	25	1.7	18	1mA	100	Heavy Duty Automobile Press fit.
IN3493/R	S	200	25	1.7	18	1mA	200	Heavy Duty Automobile Press fit.
IN4001	S	50	1	1.1	1	5	50	G.P. Rectifier.
IN4002	S	100	1	1.1	1	5	100	G.P. Rectifier.
IN4004	S	400	1	1.1	1	5	400	G.P. Rectifier.
IN4007	S	1000	1	1.1	1	0.2	1000	G.P. Rectifier.
IN5059(A14B)	S	200	2.5	1.25	2.5	0.2	200	Transient Protected (Controlled Avalanche).
IN5060(A14D)	S	400	2.5	1.25	2.5	0.2	400	Transient Protected (Controlled Avalanche).
IN5061(A14M)	S	600	2.5	1.25	2.5	0.2	600	Transient Protected (Controlled Avalanche).
IN5062(A14N)	S	800	2.5	1.25	2.5	0.5	800	Transient Protected (Controlled Avalanche).
IN5404	S	400	3	1.1	3	5	400	G.P. Rectifier.
IN5408	S	1000	3	1.1	3	5	1000	G.P. Rectifier.
IN5624	S	200	5	1.1	5	5	200	Transient Protected (Controlled Avalanche).

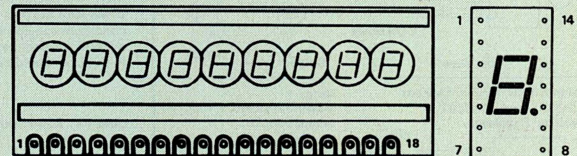
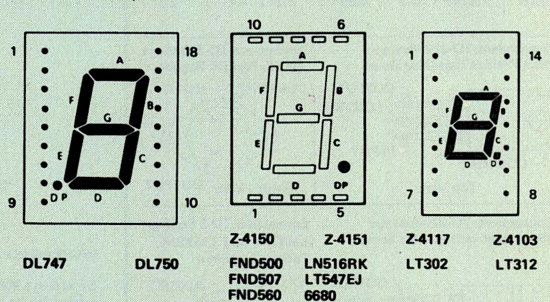
RECTIFIER BRIDGES

TYPE	MAT	VR	IF(A)	VF @	IF(A)	IR(uA) @	VR	USE
PA60	S	600	8					G.P. Bridge
PB40	S	400	25	1.2 (per leg)	12.5			Heavy Duty Bridge
MB1	S	100	1.8			5	100	Mini Bridge
MB4	S	400	1.8			5	400	Mini Bridge
PO4	S	400	6	1.3 (per leg)	6	10	400	Medium Duty Mini Bridge
WO2	S	200	1.5	1.1 (per leg)	1	10	200	Mini Bridge
WO4	S	400	1.5	1.1 (per leg)	1	10	400	Mini Bridge

7 SEGMENT LED DISPLAYS

Characteristic	Device	LT302 LT312 Z-4117	LT303 LT313 Z-4103	DL747	LN516RK FND500 FND507 FND560 Z-4150	LT547EJ Z-4151	TIL393-9 Z-4155
Digit Size	7.6mm	7.6mm	7.6mm	15.2mm	12.7mm	12.7mm	2.6mm
Colour	red	red	red	red	red	orange	red
Av. Fwd. Current	25mA	25mA	25mA	25mA	25mA	20mA	5mA
Fwd. Voltage	1.6	1.7V	1.7	2.4	1.7	2.1	1.7
Min Reverse Breakdown Voltage	3V	3V	3V	6V	3V	5V	3V
Max Rev Current	100uA	100uA	100uA	100uA	100uA	100uA	100uA
Light Intensity	320ucd	800ucd	800ucd	600ucd	600ucd	3300ucd	600ucd
Max Pwr. Dissip.	500mW	340mW	340mW	960mW	400mW	400mW	

Pin Connections (top view)



Multiplexed 9 Digit Z 4155, TIL393-9 Display

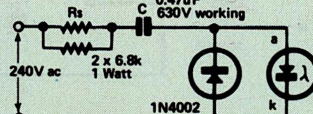
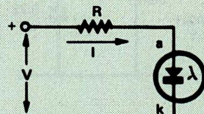
DL704 DL707

Common Cathode Types		Common Anode Types		Pin out Z-4155 TIL393-9	
DL704	TIL393-9	DL707		1. NC	7. Seg A Anodes
FND500	Z 4103	DL747		2. Digit 1 Cath	8. Dig 4 Cath
FND560	Z 4150	FND507		3. Seg C Anode	9. Seg E Anodes
LN516RK	Z 4151	LT302			15. Seg B Anode
LT303		LT312		4. Dig 2 Cath	10. Dig 5' Cath
LT313		Z 4117		5. Dec P. Anodes	11. Seg D Anode
LT547EJ		Z 4152		6. Dig 3 Cath	12. Dig 6 Cath
Pin out DL747		Pin out Z-4150 FND500 FND507 LT516RK LT547EJ 6680		Pin out DL704	
1. NC	10. NC	1. Seg. E	10. Seg. G	1. Seg. F	10. NC
2. Seg. A	11. Seg. D	2. Seg. D		2. Seg. G	11. NC
3. Seg. F	12. Common	3. Common		3. NC	12. Cathode
4. Common	13. Seg. C	4. Seg. C		4. Cathode	13. Seg. B
5. Seg. E	14. Seg. G	5. Dec. Point		5. NC	14. Seg. A
6. Common	15. Seg. B	6. Seg. B		6. Seg. E	
7. Dec. Point	16. NC	7. Seg. A		7. Seg. G	
8. NC	17. Common	8. Common		8. Seg. C	
9. NC	18. NC	9. Seg. F		9. Dec. Point	
Pin out Z-4117 LT302 LT312		Pin out Z-4103 LT303 LT313		Pin out Z-4117 LT302 LT312	
1. Seg. A	10. Seg. C	1. NC	10. R. Dec Point	1. Seg. A	10. Seg. C
2. Seg. F	11. Seg. G	2. Cathode	11. Seg. C	2. Seg. F	11. Seg. G
3. Anode	12. NC	3. Seg. F	12. Seg. B	3. Anode	12. NC
4. NC	13. Seg. B	4. Seg. G	13. Seg. A	4. NC	13. Seg. B
5. NC	14. Anode	5. Seg. E	14. NC	5. NC	14. Anode
6. L. Dec. Point		6. Seg. D		6. L. Dec. Point	
7. Seg. E		7. NC		7. Seg. E	
8. Seg. D		8. NC		8. Seg. D	
9. R. Dec. Point		9. Cathode		9. R. Dec. Point	

USING LEDs

DC Operation

When using a Light Emitting Diode (LED) as an indicator, use the following formula to determine series resistance for various voltages:
 $R = (E - 1.7) \times 1000 : I$; where R is the resistance in ohms, E is the supply voltage (DC) and I is the LED current in milliamps.
 EG. to operate the LED at 20mA; for 6V, use 220 ohms
 9V, use 390 ohms
 12V, use 560 ohms
 24V, use 1.2k ohms



Mains Operation

To operate a LED directly from the 240V mains, a better scheme is to use the second circuit shown. In this, a capacitor is used as the voltage dropping element. A 1N4002 diode or similar across the LED provides the rectification required. As the voltage drop across the LED is negligible compared with the supply, capacitor current is almost exactly equal to mains voltage divided by the capacitive reactance X_c .
 At 50Hz, 0.47uF will result in an Av LED current of about 16mA. Resistor R_s is to limit turn-on transients. A value of around 3.4k (2 x 6.8k par.) should be adequate.

ZENER DATA

Type No. ▲ 400mW Series	Type No. ▼ 1Watt Series	Nominal Zener Voltage $V_Z @ I_{ZT}$ (V)	Test Current I_{ZT} (mA) 400mW 1W
1N746	1N4728	3.3	20
1N747	1N4729	3.6	20
1N748	1N4730	3.9	20
1N750	1N4732	4.7	20 53
1N751	1N4733	5.1	20 49
1N752	1N4734	5.6	20 45
1N753	1N4735	6.2	20 41
1N754, 1N957	1N4736	6.8	18.5 37
1N755, 1N958	1N4737	7.5	16.5 34
1N756, 1N959	1N4738	8.2	15 31
1N757, 1N960	1N4739	9.1	14 28
1N758, 1N961	1N4740	10	14 25

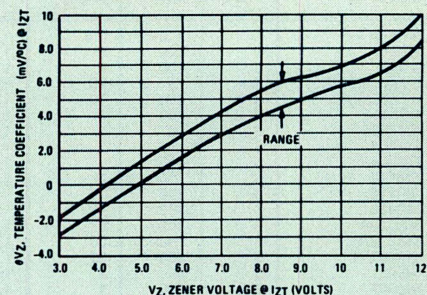
▲ DC Power Dissipation: 400milliwatts @ 50°C Ambient
(Derate 3.2mW/°C above 50°C)

Type No. ▲ 400mW Series	Type No. ▼ 1Watt Series	Nominal Zener Voltage $V_Z @ I_{ZT}$ (V)	Test Current I_{ZT} (mA) 400mW 1W
1N962	1N4741	11	12.5 23
1N759, 1N963	1N4742	12	11.5 21
1N964	1N4743	13	10.5 19
1N965	1N4744	15	9.5 17
1N966	1N4745	16	8.5 15.5
1N967, 1N4112	1N4746	18	7.8 14
1N968	1N4747	20	7 12.5
1N969	1N4748	22	6.2 11.5
1N970	1N4749	24	5.6 10.5
1N971	1N4750	27	5.3 9.5
1N972	1N4751	30	5.3 8.5
1N973	1N4752	33	5.2 7.5

▼ DC Power Dissipation: 1Watt @ 50°C Ambient (Derate
6.67mW/°C above 50°C)

This range will dissipate up to 3W @ 75°C with 10mm
lead length as heatsink.

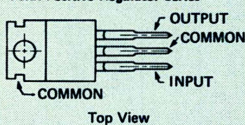
Temperature coefficient range for 1Watt units to 12 volts.



THREE TERMINAL REGULATORS

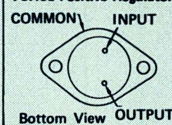
Type	Polarity	Case	V_{OUT} min typ max	I_{OUT} (nom)	Dropout Voltage
78L05	positive	TO-92	4.8 5 5.2	100mA	1.7
78L06	positive	TO-92	5.95 6.2 6.45	100mA	1.7
78L09	positive	TO-92	8.64 9 9.36	100mA	1.7
78L12	positive	TO-92	11.5 12 12.5	100mA	1.7
78L15	positive	TO-92	14.4 15 15.6	100mA	1.7
7805	positive	TO-220	4.8 5 5.2	1A	2
7806	positive	TO-220	5.75 6.0 6.25	1A	2
7809	positive	TO-220	8.64 9 9.36	1A	2
7812	positive	TO-220	11.5 12 12.5	1A	2
7815	positive	TO-220	14.4 15 15.6	1A	2
7824	positive	TO-220	23 25 25	1A	2
7905	negative	TO-220	-4.8 -5 -5.2	1A	1.1
7912	negative	TO-220	-11.5 -12 -12.5	1A	1.1
7915	negative	TO-220	-14.4 -15 -15.6	1A	1.1
LM317K	positive	TO-3	adj. 1.2 to 37	1.5Amin	
LM317T	positive	TO-220	adj. 1.2 to 37	1.5Amin	
LM350K	positive	TO-3	adj. 1.2 to 33	3A	
LM350T	positive	TO-220	adj. 1.2 to 33	3A	
78H05	positive	TO-3	4.85 5 5.25	5A	2.5

Connections TO-220 Package
78xx Positive Regulator Series



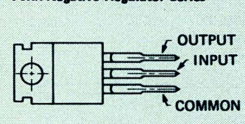
Top View

Connections TO-3 Package
78H05 Positive Regulator



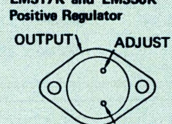
Bottom View OUTPUT

Connections TO-220 Package
79xx Negative Regulator Series



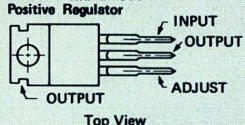
Top View

Connection TO-3 Package
LM317K and LM350K
Positive Regulator



Bottom View INPUT

Connections TO-220 Package
LM317T and LM350T
Positive Regulator

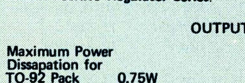


Top View

Note:
Maximum power
dissipation for:

TO-220 pack	15W
LM317T	15W
LM350T	25W
TO-3 pack	20W
LM317K	20W
LM350K	30W

Connection TO-92 Package
78Lxx Positive Regulator Series.



Bottom View

Maximum Power
Dissipation for
TO-92 Pack 0.75W

INCREASE THE OUTPUT VOLTAGE OF A 3 TERMINAL VOLTAGE REGULATOR

Regulators like the 7805 and the 7905 can give higher output if two additional resistors are configured into the circuit as shown below.

$$R1 = V_R / 0.02$$

$$R2 = V_B / 0.025$$

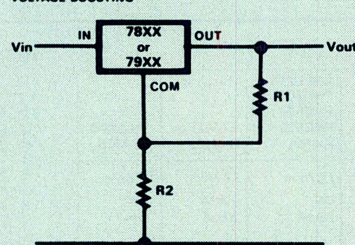
Where V_R is the normal regulated voltage from the IC and V_B is the amount by which the regulator has to be boosted above V_R .

Some examples are given below:

V_{out}	Regulator	R1	R2
6	5V	220	39
9	5V	220	150
13.8	12V	560	68
18	15V	680	120

To make a variable regulator, use a potentiometer as R2.

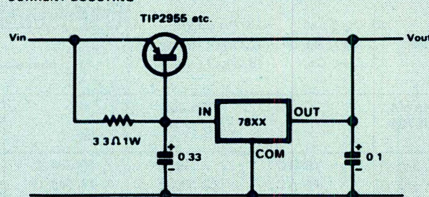
VOLTAGE BOOSTING



INCREASING THE OUTPUT CURRENT OF THE REGULATOR

By adding a PNP power transistor to a positive regulator, the output current can be increased above the normal rating of the regulator itself. The circuit shown below can be expected to deliver in excess of 4A with the pass transistor mounted on a heatsink. The same conditions can also be implemented with a negative regulator, the difference being the polarities of components, the pass transistor in this case would be an NPN type such as a 2N3055.

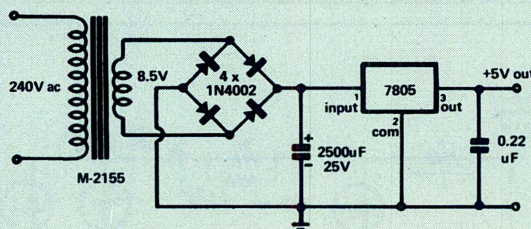
CURRENT BOOSTING



TYPICAL POWER SUPPLY USING A 3 TERMINAL REGULATOR

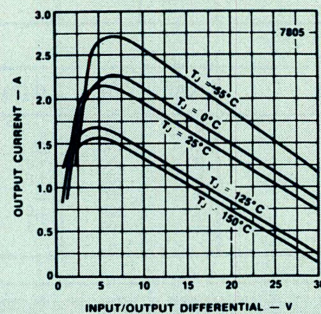
Output: 5V @ 1A

The same basic circuit can be used with other regulators of different voltages, only the input ac voltage has to be changed to accommodate the requirement of that regulator. eg. If an output of 12V was the requirement, a 7812 IC could be used with an ac input voltage of 15V.

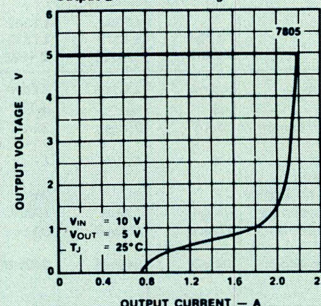


TYPICAL CHARACTERISTICS OF THE 7805 3 TERMINAL REGULATOR

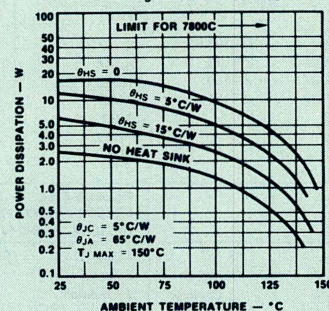
The other members of this 78xx/79xx family have similar characteristics to those shown. For other data, refer to manufacturers literature.



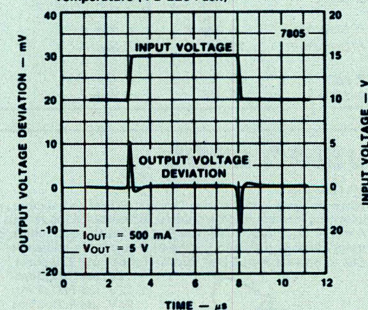
Peak Output Current as a Function of Input to Output Differential Voltage



Current Limiting Characteristics 7805



Worst Case Power Dissipation Versus Ambient Temperature (TO-220 Pack)



Line Transient Response 7805

VOLTAGE REGULATORS

These voltage regulators almost make power supply building unnecessary since they require only a filtered DC voltage input, they are essentially indestructible (if used within manufacturer's specs.) because of internal current limiting and thermal shut-down should a short occur. They are ideally suited to local, on board regulation simplifying power supply distribution systems. Excellent for TTL and project supplies. With the advent of microprocessors and microcomputers, these regulators have been used extensively in power supplies for such systems. This type of use typifies their versatility and reliability. Another area of supply regulation use is with analogue operational amplifiers. These circuits usually call for both + and - complementary rail voltages. These three terminal devices ideally suit such requirements. Both positive and negative devices will give a current output in excess of 1A and foldback current limiting occurs if the output is shorted.

SEMICONDUCTOR OUTLINES

Note: Pin connections may vary with different sources of supply. Check with your dealer if any doubt exists.

SMALL SIGNAL



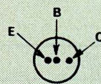
TO-92 (71, 72, 74)



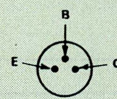
TO-72 (23, 25, 28)



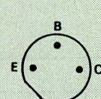
TO-18



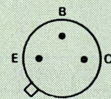
GT-3, GT-6



TO-1



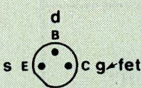
TO-105



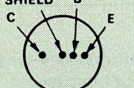
TO-5 (04)

PIN	71	72 (std)	74	76	77
1	C	G	B	E	E
2	E	D	B	C	D
3	B	S	C	G	B
	S	E	D	B	S

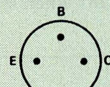
PIN	T(25)	T(28)	FET N(25)	FET P(23)
1	E	B	S	S
2	B	E	D	S
3	C	C	G	D
4	GND	GND	CASE	CASE



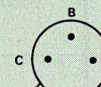
TO-106



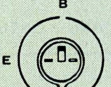
TO-107



TO-39



TO-105



TO-39 (mod)



TO-92 VAR. 1



TO-92 VAR. 2



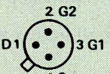
SOT-30



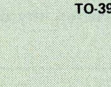
SOT-25



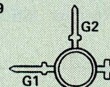
SOT-25 / 1



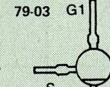
TO-72 (2)



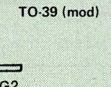
206(B)



SOT-103

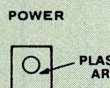


79-03 G1



TO-39 (mod)

FETS



TO-126



TO-202



TO-202FET



TO-220



TO-220AB



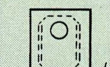
TOP-66



77-03



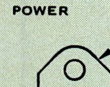
90-05



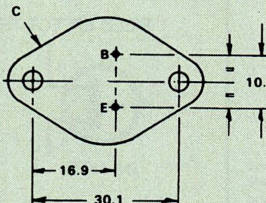
199-04



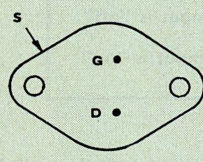
SOT-37 (2)



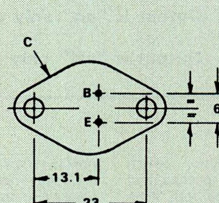
TOP-3



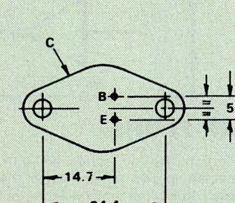
TO-3



TO-3FET



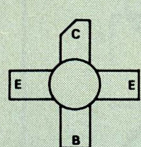
PT-1



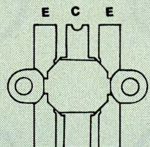
TO-66

DIMENSIONS IN MILLIMETRES

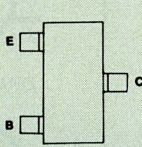
RF POWER



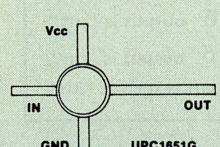
MT-72C



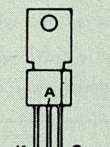
T-40



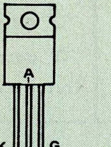
R-22



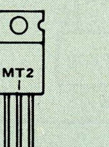
UPC1651G



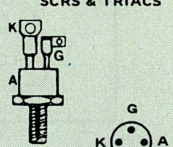
TO-202 SCR



TO-220 SCR

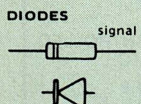


TO-220 TRIAC

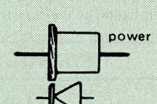
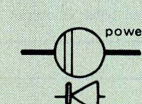
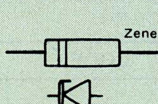
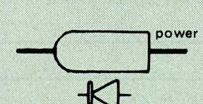
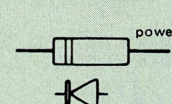


TO-48 SCR

SCRs & TRIACS



DIODES



BIPOLARS

E : EMITTER
B : BASE
C : COLLECTOR
NG : NPN GERMANIUM
PG : PNP GERMANIUM
NS : NPN SILICON
PS : PNP SILICON

FETS
S : SOURCE
G : GATE
D : DRAIN
N/CH : N CHANNEL
P/CH : P CHANNEL

G.P. : GENERAL PURPOSE
S.S. : SMALL SIGNAL
SW : SWITCH
O/P : OUTPUT

R.F. : RADIO FREQUENCY
H.F. : HIGH FREQUENCY
V.H.F. : VERY HIGH FREQUENCY

ST - 4
ASYMMETRIC
TRIGGER
DIODE

T₁
T₂

VS1 - 14 - 18V
VS2 - 7 - 9V
IS1 - 80uA
IS2 - 160uA
VF1 - 7 - 10V
VF2 - 1.6 (max)
IOFF1 - 100nA
IOFF2 - 100nA
PAV - 350mW
IF(max) - 200mA

BR - 100
DIAC

VS - 28 - 36V
VSYM/VRRM - 3V
IS(max) - 100uA
Δ VT - 6V @ 10mA

DS2646
UNIUNCTION
TRANSISTOR (UJT)
NEGATIVE BASE

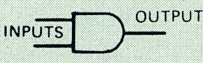

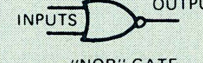
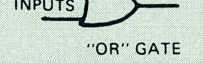
PTOT - 300mW
VB2-E - 30V
VB2-B1 - 35V
R(B-B1)O - 9k ohms (max)
VB1(PK) - 3V
IE(PK) - 5uA
τ - 0.56 - 0.75
I(VAL) - 4mA min.

2N6027/D13T1
PROGRAMMABLE
UNIUNCTION
TRANSISTOR


VA-K - 40V (max)
IT - 2A (max)
I(VAL) - 50uA
IS(max) - 2uA @ 1.5V

SIMPLE DIGITAL CIRCUITS

GATES

SYMBOL	CODE
 <p>“AND” GATE</p>	Output is “on” only when all inputs are “on”. Output is “off” when any or all inputs are “off”.
 <p>“NAND” GATE</p>	Output is “off” only when all inputs are “on”. Output is “on” when any or all inputs are “off”.
 <p>“NOR” GATE</p>	Output is “on” only when all inputs are “off”. Output is “off” when any or all inputs are “on”.
 <p>“OR” GATE</p>	Output is “off” only when all inputs are “off”. Output is “on” when any or all of the inputs are “on”.

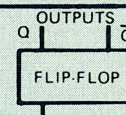
INVERTERS

SYMBOL	CODE
 <p>INVERTER</p>	Output is “on” only when the input is “off”. Output is “off” only when the input is “on”.

FLIP-FLOPS

A flip-flop can be compared with a push button switch connected to two lamps. When the button is pushed and released, one of the lamps will turn “on” and the other “off”. If the button is again pushed and released, the lamp that was “off” will

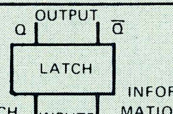
now turn “on” and the lamp that was “on” will turn “off”. There are many different types of flip-flops, but they all operate basically in the same way. The difference is in the number and type of inputs.

SYMBOL	CODE
 <p>FLIP-FLOP</p>	“Q” output is “on” when “Q̄” output is “off”. “Q” output is “off” when “Q̄” output is “on”. Outputs change when the input is turned “off”.

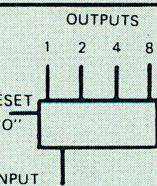
LATCH

A latch is a flip-flop designed to store information until it is needed. It has an extra latch input. When the latch is turned on, the information on the input will be transferred to the “Q” output.







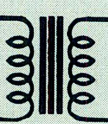
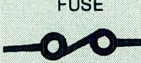



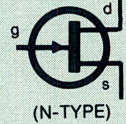





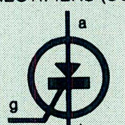
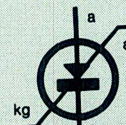




When the latch is turned “off”, the information that was on the input at the time the latch was turned off, will be stored on the “Q” output.

SYMBOL	CODE
 <p>LATCH</p>	“Q” output will follow the information input. “Q̄” output will always be the opposite of the “Q” output.

COUNTERS


SYMBOL	CODE
 <p>COUNTER</p>	As the input is turned “on” and “off” the count is accumulated on the outputs in either binary or decimal form depending on circuit. Counters are easily cascaded by using the highest output as the next input. When full the counter will automatically reset to zero. To use as a “N” divider the reset pin is connected to the required digit plus one.

COMMON COMPONENT DIAGRAMS


RESISTORS	CAPACITORS NON-POLAR	INDUCTOR
		
	POLAR CAPACITORS	
		
		
		
TRANSFORMER	FUSE	NEON
		
TRANSISTORS	DIODES	
		
(NPN)	(PNP)	
FIELD EFFECT TRANSISTOR (FET)		
		
(N-TYPE)	(P-TYPE)	
MOSFET	UNIUNION	
		
ZENER DIODES	(PUT)	
		
SILICON CONTROLLED RECTIFIERS (SCR)	SILICON CONTROLLED SWITCH	
		
DIACS (NON-POLAR)	TRIACS	
		
LED	VARIACAP	
		

WIRING PLUGS

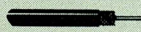
BELLING-LEE TYPE




STEP 1:
Cut end of cable even and remove 22mm of outer sheath.




STEP 2:
Remove 16mm of braid and dielectric, taking care not to damage centre conductor. Lightly tin conductor.




STEP 3:
Slide cap and collet clamp over cable and slightly squeeze collet in position. Comb braid out and fan back over collet.




STEP 4:
Solder tip of plug to centre conductor. Do not overheat. Push sub-assembly into body of plug, and screw cap onto body to complete assembly.



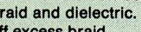
BNC TYPE (FEMALE)



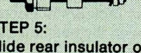
STEP 1:
Cut end of cable even and remove 8mm of outer sheath.



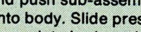
STEP 2:
Slide clamp nut and pressure sleeve over cable, and comb out braid.



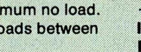
STEP 3:
Fold braid back and insert ferrule between braid and dielectric. Trim off excess braid.




STEP 4:
Remove 5mm of dielectric without damaging centre conductor. Tin conductor.



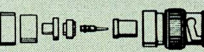
STEP 5:
Slide rear insulator over conductor hard against rear insulator. Solder contact to conductor.




STEP 6:
Fit front insulator in body and push sub-assembly onto body. Slide pressure sleeve into body and screw in the clamp nut to clamp cable.



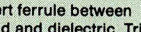
BNC TYPE (MALE)



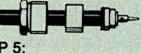
STEP 1:
Cut end of cable even and remove 8mm of outer sheath.



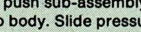
STEP 2:
Slide clamp nut and pressure sleeve over cable, and comb out braid.



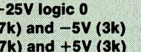
STEP 3:
Fold braid back and insert ferrule between braid and dielectric. Trim off excess braid.



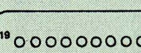
STEP 4:
Remove 5mm of dielectric without damaging centre conductor. Tin conductor.




STEP 5:
Slide rear insulator over conductor hard against rear insulator. Solder contact to conductor.



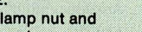
STEP 6:
Fit front insulator in body and push sub-assembly onto body. Slide pressure sleeve into body and screw in the clamp nut to clamp cable.



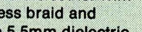
'N' TYPE



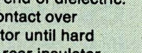
STEP 1:
Cut end of cable even and remove 9mm of outer sheath.



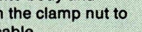
STEP 2:
Slide clamp nut and pressure sleeve over cable, and comb out braid.



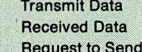
STEP 3:
Fold braid back and insert ferrule between braid and dielectric. Trim off excess braid and remove 5.5mm dielectric without damaging inner conductor. Tin end of conductor.




STEP 4:
Slide rear insulator over conductor and position against end of dielectric. Slide contact over conductor until hard against rear insulator. Solder contact to conductor.




STEP 5:
Fit front insulator in body and push sub-assembly into body. Slide pressure sleeve into body and screw in the clamp nut to clamp cable.



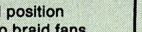
UHF TYPE



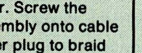
STEP 1:
Cut end of cable even and remove 27mm of outer sheath.




STEP 2:
Slide coupling ring and adapter onto sheath. Fan braid back over sheath.




STEP 3:
Compress braid around cable and position adapter so braid fans over adapter. Trim off excess braid.



STEP 4:
Remove 12.5mm dielectric and tin conductor. Screw the plug assembly onto cable and solder plug to braid through solder holes.



STEP 5:
Solder conductor to centre pin and screw coupling ring onto assembly.

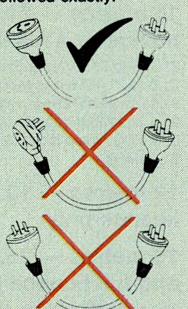


Wiring Mains Plugs & Sockets

More electrocutions are caused through incorrectly wired or faulty mains and extension leads than any other cause. While every hobbyist should know how to wire up a mains plug, it is not a task done every day and many cables ARE wired incorrectly.

Colour Code: Cables throughout the world are now standardising on the colour code recommended by the IEC. However, many cables are still in existence with the former colour code. The ACTIVE (or live) wire is coloured brown (or red in old cables). The NEUTRAL wire is coloured blue (or black in old cables). The EARTH wire is coloured green with a yellow stripe (plain green in old cables).

Wiring the cable: Following the instructions with the plug and socket. The diagrams below, reproduced by courtesy of HPM, show the right and wrong ways to wire an extension lead. It is essential these are followed exactly.



THE RS232C INTERFACE

The basic RS232C electrical specifications

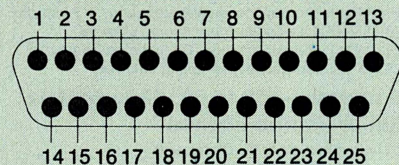
Communication rate.
Driver output voltage levels, maximum no load.
Driver output voltage ranges for loads between 3k and 7k ohms.
Driver output current, short circuit.
Driver output impedance with power off.
Maximum driver output slew rate.
Receiver input resistance.
Effective receiver input capacitance.
Maximum receiver input voltage range.

0-20.00 bits per second
-25V logic 1, +25V logic 0
logic 1: -15V (7k) and -5V (3k)
logic 0: +15V (7k) and +5V (3k)
500mA maximum
300 ohms minimum
30 volts per microsecond
7k ohms maximum, 3k ohms minimum
2500pF maximum
-25V to +25V

RS232C CABLE PLUG CONNECTIONS

Pin No. Signal

- Protective Ground
- Transmit Data
- Received Data
- Request to Send
- Clear to Send
- Data Set Ready
- Signal Ground
- Received Line Signal Detector
- Data Terminal Ready



View — socket rear

Pin No. Signal

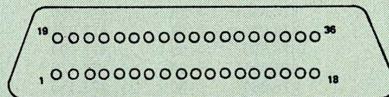
- Signal Ground
- Data Bit 0
- Data Bit 1
- Data Bit 2
- Data Bit 3
- Data Bit 4

Pin No. Signal

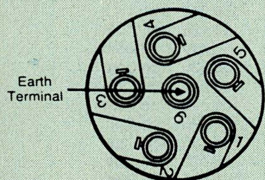
- Data Bit 5
- Data Bit 6
- Data Strobe
- Data Acknowledge
- Input Busy Ready

STANDARD CENTRONICS PRINTER PLUG CONNECTIONS

View — plug rear

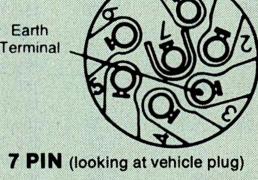


TRAILER CONNECTIONS



6 PIN (looking at trailer plug)

Pin	Connection	Wire Colour
1	Tail Lamp	Brown
2	Left Turn Indicator	Yellow
3	Right Turn Indicator	Green
4	Stop Lamps	Red
5	Aux. Circuits	Blue
6	Earth	White

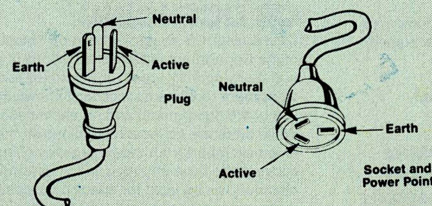


7 PIN (looking at vehicle plug)

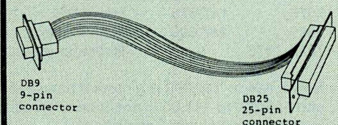
Pin	Connection	Wire Colour
1	Left Turn Indicator	Yellow
2	Reversing Signal	Black
3	Earth	White
4	Right Turn Indicator	Green
5	Service Brakes	Blue
6	Stop Lamps	Red
7	Rear Lamps, clearance & Side Marker Lamps	Brown

GET IT RIGHT!

Note the correct locations of the active, neutral and earth pins — a power outlet is exactly the same as an extension cord socket. (In almost all cases you will find a power point or socket is labelled A, N & E. Power points may also be colour coded, but usually they are marked with the old [red/black/green] colours.)



9 PIN to 25 PIN RS232 CONVERSION



	Pin No.
DB9	1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9
DB25	8 : 3 : 2 : 20 : 7 : 6 : 4 : 5 : 22

AMATEUR BAND PLAN

160 metres — 1.8 to 1.86MHz full licence only

1.8 to 1.815MHz Morse section
1.815 to 1.860MHz voice section
1.825MHz national call channel
1.820MHz also a popular crystal net

80 metres — 2.5 to 3.8MHz novice and full licence

3.525MHz to 3.625MHz is the Novice Band in Australia
3.5 to 3.550MHz Morse section
3.550 to 3.7MHz voice section
3.7 to 3.74MHz is the US Novice Band
3.565MHz is a popular Novice listing and working channel
3.794 to 3.8MHz full licence only

40 metres — 7.0 to 7.3MHz full licence only

7.1 to 7.15MHz is the American Novice Band
7.0 to 7.035MHz Morse segment
7.035 to 7.3MHz voice segment
7.05MHz national listening channel, some AM stations but mainly Morse and LSB.

30 metres — 10.1 to 10.15MHz full licence only

20 metres — 14.0 to 14.35MHz full licence only

14.0 to 14.1MHz, Morse, 14.1 to 14.35MHz, voice
14.1 to 14.2MHz popular in Europe
14.2 to 14.35MHz popular in USA

15 metres — 21.0 to 21.45MHz novice and full licence only

21.125 to 21.2MHz is the Novice Band in Australia
21.0 to 21.15MHz is Morse
21.15 to 21.45MHz is voice
21.1 to 21.2MHz is the US Novice Band
In the US, voice is 21.25 to 21.45MHz. Morse is 21.0 to 21.25MHz

12 metres — 10.1 to 10.15MHz full licence only

10 metres — 28.0 to 29.7MHz novice and full licence only

28.1 to 28.6MHz is the Australian Novice Band
28.1 to 28.2MHz is the US Novice Band
28.0 to 28.5MHz is the Australian Morse section
28.5 to 29.7MHz is the voice section
28.5MHz is the national calling frequency in Australia
28.55MHz is a popular international channel
28.6MHz is the international DX listening frequency
29.6MHz International FM calling channel,

6 metres — 50 to 52, 52 to 54MHz full or limited licence

* Limited in area of TV Channel '0'

2 metres — 144 to 148MHz full or limited licence

6025-6400	—	Repeater Inputs
6425	146.425	Secondary voice channel
6450	146.450	Primary voice channel
6475	146.475	Secondary voice channel
6500	146.500	National Calling Channel
6525	146.525	Secondary voice channel
6550	146.550	Primary voice channel
6575	146.575	Secondary voice channel
6600	146.600	National RTTY
6625-7000	—	Repeater Outputs
7025-7375	—	Repeater Outputs
7400	147.400	ATV Liaison
7425	147.425	ATV/SSTV/FAX
7475	147.475	SSTV/FAX liaison
7550	147.550	Micro Net
7575	147.575	Micro Net
7600	147.600	Data Packet
7625-7975	—	Repeater Inputs

Notes: 144 to 144.600 is a narrow band FM mode area and 145.700 to 146.000 should be avoided because it interferes with satellite operation.

70cm and above: full or limited licence

420 to 450MHz	3300 to 3600MHz
576 to 585MHz	5650 to 5850MHz
1240 to 1300MHz	10000 to 10500MHz
2300 to 2450MHz	24000 to 24250MHz

AMATEUR LICENCING

The Department of Communications conducts examinations for Amateur Operator's Certificate of Proficiency (AOC/P) several times each year at centres throughout Australia. There are four classes of licence:

AOC/P: Amateur Operator's Certificate of Proficiency

AOLCP: Amateur Operator's Limited Certificate of Proficiency

NAOCP: Novice Amateur Operator's Certificate of Proficiency

Combined AOLCP/NAOCP

The requirements for these licences are:

AOC/P: Knowledge of radio communication, operation and design of receivers, transmitters, aerials and basic theory. Send and receive in plain language International Morse Code to a speed of 10 words per minute (WPM). The knowledge of the regulations covering operation of Amateur Radio Stations.

AOLCP: As above, but no Morse Code required.

NAOCP: Similar to AOC/P but of a lower standard. Morse Code to 5WPM, same regulations as AOC/P. This is a relatively easy exam to pass.

Combined: Normally for those with AOLCP; achieved by passing NAOCP Morse exam (5WPM). Conversely, NAOCP holders can upgrade by passing LAOCP regulations.

The various licences allow:

AOC/P: All amateur bands, with maximum of 400W Peak output power (150W AM).

AOLCP: All amateur bands above 30MHz, but no Morse allowed. Same power limits as AOC/P.

NAOCP: 3.525 to 3.625MHz, 21.125 to 21.20MHz, 28.1 to 28.60MHz; Maximum output power 30 watts peak.

Combined: Same as taking either limited or novice alone.

CB RADIO CHANNELS

HF 40 CHANNEL INTERNATIONAL STANDARD

CHANNEL No.	FREQUENCY MHz	CHANNEL No.	FREQUENCY MHz
1	26.965	21	27.215
2	26.975	22	27.225
3	26.985	23	27.255
4	27.005	24	27.235
5	27.015	25	27.255
6	27.025	26	27.265
7	27.035	27	27.275
8	27.055	28	27.285
9 (emergency)	27.065	29	27.295
10	27.075	30	27.305
11	27.085	31	27.315
12	27.105	32	27.325
13	27.115	33	27.335
14	27.125	34	27.345
15	27.135	35	27.355
16	27.155	36	27.365
17	27.165	37	27.375
18	27.175	38	27.385
19	27.185	39	27.395
20	27.205	40	27.405

UHF 40 CHANNEL AUSTRALIAN STANDARD

CHANNEL No.	FREQUENCY MHz	CHANNEL No.	FREQUENCY MHz
1	476.425	21	476.925
2	476.450	22	476.950
3	476.475	23	476.975
4	476.500	24	477.000
5 (emergency)	476.525	25	477.025
6	476.550	26	477.050
7	476.575	27	477.075
8	476.600	28	477.100
9	476.625	29	477.125
10	476.650	30	477.150
11	476.675	31	477.175
12	476.700	32	477.200
13	476.725	33	477.225
14	476.750	34	477.250
15	476.775	35	477.275
16	476.800	36	477.300
17	476.825	37	477.325
18	476.850	38	477.350
19	476.875	39	477.375
20	476.900	40	477.400

CB LICENCING

Licences for CB equipment can be obtained from offices of the Department of Communications in each capital city and many country areas for an annual fee. Use of CB equipment requires no technical knowledge (apart from use of the equipment!) and no examination is required. While there are no legal restrictions on the use of channels (apart from the emergency channels) conventions have emerged which determine that certain channels will be used for specific purposes. Details of these channel usages are available through various clubs and magazines.

CB Radio may be used for business or pleasure; however it must be remembered that there is no privacy with CB and anybody may be listening in. Furthermore, no-one has 'occupancy' rights of any channel in any area. Several CB groups have established UHF CB repeaters in their areas. These have the same function as amateur radio repeaters. Input to these repeaters is generally on channels 1 to 5 (UHF). CB enthusiasts in your area will be able to tell you the local repeaters' frequencies.

MARINE FREQUENCIES

Frequency (MHz)	Use
27.680	Commercial organisations. Domestic ship-shore-ship and intership, calling and working.
27.720	Professional fishermen. Domestic, ship-shore-ship, calling and working.
27.820	Professional fishermen. Intership.
27.860	Amateur organisations. Alternate calling and working for distress, emergency and safety messages for weather and position reports.
27.880	Distress calling ONLY
27.900	Amateur organisations. Domestic ship-shore-ship, calling and working.
27.910	Amateur organisations. Domestic ship-shore-ship, calling and working.
27.940	Amateur organisations. Club events, ship-shore-ship and intership, calling and working.
27.960	Amateur organisations. Intership.
27.980	Surf rescue.

27MHz marine radio channels should not be confused with 27MHz CB radio channels. While both are in the 27MHz band they are not interchangeable and a 27MHz CB cannot be used on the 27MHz marine band and vice versa.

The alternative marine bands are VHF (56 channels available) and HF (many 'spot' frequencies available). Your Dick Smith Electronics store will be happy to advise you on the best marine transceiver for your craft.

Note that transceivers are not compulsory for most craft proceeding offshore.

DESIG	SHIP	SHORE	TYPE TRAFFIC
P1	157.375	157.375	Non Com'l
02	156.100	160.700	Port Ops
03	156.150	160.750	Port Ops
04	156.200	160.800	Port Ops
05	156.250	160.850	VTS
06	156.300	156.300	Safety
07	156.350	160.950	Com'l
08	156.400	156.400	Com'l
09	156.450	156.450	Com'l & Non Com'l
10	156.500	156.500	Com'l
11	156.550	156.550	Com'l
12	156.600	156.600	Port Ops
13	156.650	156.650	Navigational
14	156.700	156.700	Port Ops
15	156.750	156.750	Environmental
16	156.800	156.800	Safety Calling
17	156.850	156.850	State Control
18	156.900	161.500	Com'l
19	156.950	161.550	Com'l
20	157.000	161.600	Port Ops
21	157.050	161.650	Coast Guard
22	157.100	161.700	Coast Guard
23	157.150	161.750	Coast Guard
24	157.200	161.800	Public Corresp.
25	157.250	161.850	Public Corresp.
26	157.300	161.900	Public Corresp.
27	157.350	161.950	Public Corresp.
28	157.400	162.000	Public Corresp.
60	156.025	160.625	
61	156.075	160.675	
62	156.125	160.725	
63	156.175	160.775	
64	156.225	160.825	
65	156.275	160.875	Port Ops
66	156.325	160.925	Port Ops
67	156.375	156.375	Com'l
68	156.425	156.425	Non Com'l
69	156.475	156.475	Non Com'l
70	156.525	156.525	Non Com'l
71	156.575	156.575	Non Com'l
72	156.625	156.625	Non Com'l
73	156.675	156.675	Port Ops
74	156.725	156.725	Port Ops
77	156.875	156.875	Port Ops
78	156.925	161.525	Non Com'l
79	156.975	161.575	Com'l
80	157.025	161.625	Com'l
81	157.075	161.675	Coast Guard
82	157.125	161.725	Gov Only
83	157.175	161.775	Coast Guard
84	157.225	161.825	Public Corresp.
85	157.275	161.875	Public Corresp.
86	157.325	161.925	Public Corresp.
87	157.375	161.975	Public Corresp.
88	157.425	161.025	Com'l

Amateur Radio Repeaters

TWO METRE REPEATERS

ACT			
Canberra	VK1RAC	6900	Black Hill
ACT	VK1RGI	6950	Mt Ginini

NEW SOUTH WALES

AREA	CALL	CHAN	SITE
Hunter Region - Newcastle	VK2RPI	6625	—
North Coast - Coffs Harbour	VK2RCH	6650	Bruner Park
Western Blue Mountains	VK2RDX	6650	Mt. Bindo
Moree/Inverell	VK2RMI	6650	Terry Hie Hie
Sydney	VK2RTY	6675	Seven Hills
Central West - Orange	VK2RAO	6700	Mt. Canobolas
South Coast - Ulladulla	VK2RPU	6700	Milton
Mid-N. Coast-Pl. Macquarie	VK2RPM	6700	Taree
Central Coast - Gosford	VK2RAG	6725	Somersby
Far South Coast - Bega	VK2RFS	6750	Mt. Mumbulla
New England - Tamworth	VK2RTM	6750	Mt. Crawney
Riverina - Wagga	VK2RWG	6750	Mt. Flackney
Orana Region - W'bungles	VK2RCC	6800	Needle Mtn.
Far North Coast - Lismore	VK2RIC	6800	Parrots Nest
Sydney - Metro coverage	VK2RLE	6800	Heathcote
New England - Gunnedah	VK2RAB	6850	Porcupine Res.
South Coast - Wollongong	VK2RAW	6850	Mt. Murray
Riverina - Griffith	VK2RGF	6850	Mt. Bingar
Sydney - Northern Beaches	VK2RMB	6875	Terrey Hills
Hunter Region - Newcastle	VK2RAN	6900	Mt. Sugarloaf
Central West Condoblin	VK2RRT	6900	Boona Mount.
Sydney - Lower Nth. Shore	VK2RGR	6925	North Ryde
New England Tablelands	VK2RNE	6950	Mt. Rumbec
Hunter Region - Newcastle	VK2RAN	6975	—
Sydney - Metro coverage	VK2RWI	7000	Dural
Blue Mountains	VK2RMB	7050	Mt. Tomah
Sydney - Eastern Suburbs	VK2ROT	7075	Paddington
Hunter Region - Newcastle	VK2RTZ	7100	Mt. Sugarloaf
Central West - Grenfell	VK2RWM	7100	Grenfell
State Wide Emerg (WICEN)	—	7125	—
Sydney Emergency	VK2RWS	7150	Chatswood
South Coast - Nowra	—	7175	—
State Wide Emerg (WICEN)	VK2RSD	7200	Mt Cambewarra
Far North Coast - Byron Bay	—	7200	—
Sydney	VK2RST	7225	Lane Cove West
Sydney - Upper Nth Shore	VK2RNS	7250	Hornsby
South Coast - N Wollongong	VK2RIL	7275	Sublime Point
Sydney - West	VK2RTS	7300	—
Stth Highlands - Goulburn	VK2RGN	7325	—
Stth Highlands - Mittagong	VK2RHR	7350	Bowral
Sydney - South West	VK2RLD	7375	Razorback

VICTORIA

AREA	CALL	CHAN	SITE
Shepparton	VK3RGV	6650	Mt. Wombat
Melbourne	VK3RML	6700	Mt. Dandenong
Corryong	VK3RNC	6700	Mt. Mittamatite
Ouyen	VK3RON	6700	Ouyen
Ballarat	VK3RBA	6750	Mt. Bunn'nyong
Latrobe Valley	VK3RLV	6800	Mt. Tassie
Mt. Macedon	VK3RMM	6850	Mt. Macedon
East Gippsland	VK3REG	6900	Donalds Knob
Swan Hill	VK3RSH	6900	Swan Hill
Grampians	VK3RWZ	6950	Mt. William
Wodonga	VK3RGL	7000	Mt. Anakie
Oneco	VK3RNE	7000	Mt. Big Ben
Robinvale	VK3RGO	7050	Mt. Livingstone
Warmambool	VK3RWL	7050	Robinvale
Bright	VK3RVP	7100	Mt. Warm'bool
South Gippsland	VK3RSG	7100	Mt. Porepunkah
Geelong	VK3RGC	7125	Bass Hill
Bendigo	VK3RCV	7150	Montepellier
Melbourne	VK3REC	7175	Mt. Alexandria
West Gippsland	VK3RWC	7225	Mt. Dandenong
Portable	VK3RWG	7300	Warragul
Melbourne	VK3RTY	7350	—
			Mt. Dandenong

QUEENSLAND

AREA	CALL	CH	SITE
Rockhampton	VK4RAR	6700	Rockhampton
Townsville	VK4RAT	6700	Mt. Stuart
Gold Coast	VK4RGC	6700	Mt. Tambourine
Mt. Isa	VK4RMI	6700	—
Darling Downs	VK4RDD	6750	Mt. Mowbullan
Bundaberg	VK4RBU	6800	Mt. Goon'man
North Coast	VK4RNC	6850	Nr Nambour
Ipswich	VK4RAI	6900	Mt. Crosby
Gladstone	VK4RAB	6900	Calloope Range
Cairns	VK4RCA	6950	Mt. B'den Ker
Brisbane	VK4RBN	7000	Mt. Glorious
Mackay	VK4RMT	7000	North Mackay
Brisbane	VK4RBT	7050	Mt. Cotton
Brisbane	VK4RAG	7150	Springhill
Portable	VK4RWI	7150	—
Bundaberg	VK4RBS	7250	Mt. Goon'man
Brisbane	VK4RQT	7300	—

SOUTH AUSTRALIA

AREA	CALL	CHAN	SITE
Gove	VKS—	6650	—
Port Pirie	VKS5RMN	6700	The Bluff
Eyre Peninsula	VKS5REP	6800	—
Adelaide	VKS5RHO	6850	Houghton
Mt. Gambier	VKS5RMG	6900	Mt. Gambier
Adelaide	VKS5RAD	7000	Crafrers
Alice Springs	VKS5RCA	7000	Alice Springs
Darwin	VKS5RTE	7000	—

WESTERN AUSTRALIA

AREA	CALL	CHAN	SITE
Bunbury	VK6RSW	6650	Bunbury
Albany	VK6RAL	6700	Albany
Perth	VK6RAP	6700	Roleystone
Wyndham	VK6RWH	6700	Wyndham
Wickham	VK6RWK	6700	Wickham
Perth	VK6RTH	6750	Tic Hill
Albany	VK6RAA	6800	Mt. Barker
Perth	VK6RTH	6800	Tic Hill
Karratha	VK6RWP	6800	Karratha
Exmouth	VK6REX	6850	Tower Zero
Kambalda	VK6RKB	6850	Kambalda
Bunbury	VK6RBY	6900	Mt. William
Mt. Newman	VK6RMN	6900	Mt. Newman
Perth	VK6RPD	6950	W.A.I.T. Bentley
Emergency	VK6REE	6975	—
Kalgoorlie	VK6RAK	7000	Kalgoorlie
Wagin	VK6RAW	7000	Mt. Latham
Emergency	VK6REE	7000	—
Geraldton	VK6RGN	7000	Geraldton
Port Hedland	VK6RNW	7000	Port Hedland
Perth	VK6RTY	7050	Nedlands
Perth	VK6RWC	7100	Doubleview
Catuby	VK6RCT	7200	Catuby
Boddington	VK6RMS	7250	Mt. Saddleback
Eneabba	VK6REN	7300	Ocean Hill
Busseton	VK6RBN	7350	Busseton

TASMANIA

AREA	CALL	CHAN	SITE
North West	VK7RAD	6625	Mt. Duncan
Hobart	VK7RHT	6700	Mt. Wellington
North West Coast	VK7RNW	6750	Ulverstone
East Coast	VK7REC	6900	Snow Hill
North East Coast	VK7RAA	7000	Mt. Barrow

70cm REPEATERS

AREA	CALL	CHAN	SITE
ACT			
Canberra	VK1RGI	8525	Mt Ginini
NSW			
Southern Highlands	VK2RTK	8025	Somersby
Central Coast - Gosford	VK2RAG	8074	Terrey Hills
Sydney North Beaches	VK2RMB	8175	Port Kembla
South Coast - Wollongong	VK2RUW	8225	Chatswood
Sydney - Emergency	VK2RWS	8275	Taree District
North Coast - Taree	VK2REE	8325	Kurrajong
Blue Mountains	VK2RUT	8375	Hurstville
Sydney Southern Suburbs	VK2RUH	8425	Parramatta
Sydney Western Suburbs	VK2RRS	8475	Dural
Sydney - Metro coverage	VK2RWI	8525	New Lambton
Hunter Region - Newcastle	VK2RUM	8625	Mt. Sugarloaf
Hunter Region - Newcastle	VK2RAN	8675	Mt. Nardi
Far North Coast - Lismore	VK2RSC	8675	Sublime Point
South Coast - N.Wollongong	VK2RIL	8725	—
VIC			
Melbourne	VK3RMU	8074	Mt. St. Leonard
Melbourne	VK3ROU	8225	Mt. Dandenong
Portable	VK3RWE	8275	—
Gippsland	VK3RGU	8375	Carraung
Melbourne	VK3RAD	8525	Mitcham
Wodonga	VK3RNU	8525	Mt. Stanley
Mildura	VK3RRU	8525	Merbein
Portable	VK3RWI	8625	—
Grampians	VK3RWU	8675	Mt. William
Mt. Macedon	VK3RCU	9275	Mt. Macedon
Benalla	VK3ROU	9425	Chassney Vale
	VK3RBU	9575	—
	VK3RPU	9725	Arthurs Seat
QLD			
North Coast	VK4RNC	8074	Mt. Nambour
Gold Coast	VK4RGC	8225	Mt. Tambourine
Brisbane	VK4R	8375	Brisbane South
Brisbane	VK4RBC	8525	Mt. Cool-tha
Bundaberg	VK4RBU	8675	Mt. Goon'man

S A

Adelaide	VK5	8525	Crafrers
W A			
Perth	VK6RUF	8525	Roleystone
TAS			
Hobart	VK7	8525	—
North East	VK7RAB	8550	Mt Arthur
Hobart	VK7RTC	8600	Mt Nelson
North West	VK7RAC	8650	Table Cape

SIX METRE REPEATERS

NSW			
AREA	CALL	CHAN	SITE
Sydney	VK2RWI	3850	Dural
Hunter	VK2—	3625	—
VIC			
Melbourne	VK3RTN	3675	Mt Dandenong
Melbourne	VK3MH	3900	Hurstbridge
WA			
Perth	VK6RSM	3200	Tic Hill

Amateur Television & ATV Repeaters

VK2RTV: Gladesville Amateur Radio Club TV Group

Input: Vision 426.25MHz Sound 431.75MHz
Output: Vision 579.25MHz Sound 584.75MHz (UHF TV Ch35)
VK2RTV is located at Lane Cove, Sydney, in the studios of the Gladesville Amateur Radio Club's TV Group.

This club is the foremost teaching body for amateurs in Australia, and each Wednesday evening transmissions take place which include tapes of sections of the novice or full call amateur radio licence courses that this club has produced, as well as other items of technical interest. Transmission commences at 7.00PM local time with a test pattern.

Licensed amateurs within viewing range are invited to give reception reports on the club's 2m repeater (VK2RGR) on 146.925MHz. Information about the club may be obtained by writing to the club at PO Box 48, Gladesville, NSW 2111.

VK2RTS: Sydney ATV Group

Input: Vision 444.25MHz Sound 449.75MHz
Output: Vision 579.25MHz Sound 584.75MHz (UHF TV Ch35)
VK2RTS is located near Springwood in the lower Blue Mountains. Input to this repeater is via touch tone operation and information can be obtained by writing to SATV Group, Box 84, Hazelwood 2779, or via 147.3MHz simplex (this will be operating as a repeater when funds and time are available).

A net is held every Tuesday night at 7.30PM on the above frequency. VK2RTS re-transmits the material from Wednesday's VK2RTV transmission on Saturday at 7.30PM

Repeater hours: Mon-Fri 1400 — 2200, Sat & Sun 1000 — 2200.

VK4RTV: South East Queensland ATV Group

Repeater operation is via a valid television signal. Touch tone operation is required for rotation of the receive antenna. Two metre liaison frequency is 147.3MHz (VK4RQT) and the 70cm liaison frequency is 438.025MHz (VK4RTD).

For more information please contact SEATV Group, PO Box 3, Chermiside Qld 4032.

AREA	CALL	INPUT VISION	INPUT SOUND	OUTPUT VISION	OUTPUT SOUND
CANBERRA	VK1RTV	426.25	431.75	579.25	584.75
SYDNEY	VK2RTV	426.25	431.75	579.25	584.75
SPRINGWOOD	VK2RTS	444.25	449.75	579.25	584.75
NEWCASTLE	VK2RTN	426.25	431.75	579.25	584.75
WAGGA	VK2RTW	444.25	449.75	579.25	584.75
BENDIGO	VK3RMZ	426.25	431.75	579.25	584.75
MELBOURNE	VK3RTV	444.25	449.75	579.25	584.75
BRISBANE	VK4RAT	444.25	449.75	579.25	584.75
BRISBANE	VK4RTV	449.25	449.75	579.25	584.75
CENTRAL NORTH	VK5RCN	426.25	431.75	444.25	449.75
CENTRAL NORTH	VK5RCN	579.25	584.75	444.25	449.75
ADELAIDE	VK5RTV	426.25	431.75	579.25	584.75
ADELAIDE	VK5RTV	444.25	449.75	579.25	584.75
HOCKHAM	VK5RWH	444.25	449.75	1246.25	1251.75
PERTH	VK6ROD	426.25	431.75	579.25	584.75
PERTH	VK6RUF	426.25	431.75	579.25	584.75
DEVONPORT	VK7RAE	444.25	449.75	579.25	584.75
NORTH WEST	VK7RTV	444.25	449.75	426.25	431.75

INFORMATION

STOCK AND PRICES

This catalogue is produced to cover the year from April 1988, until March 1989. Because of this, plus the fact that this catalogue is in print production from January 1988, there may be items shown in this catalogue that are not in stock at the time of your receiving this catalogue, or could even be sold out. Likewise, prices are subject to revision during the life of this catalogue. We are aware of the inconvenience that this sometimes causes and would like to take this opportunity to ask you to bear with our problems and if you are not sure as to prices and stock availability, please phone and check with us before making a long journey. Thank you — the staff of Dick Smith Electronics.

GUARANTEES

Manufacturer's guarantee.

1. All Australian manufacturer's guarantees are fully valid on products we sell.

2. Semiconductor guarantee policy. Most manufacturers will not replace semiconductors, as all semiconductors shipped from their factories are computer quality controlled. However, in some cases when the value of the semiconductor is considerable (eg over \$5), a manufacturer's engineer will test the semiconductor if it is returned unsold to them. You can return your semiconductor to the manufacturer's agents either through our company, if purchased from us, or deal direct, to save time.

3. Periods of guarantee. Unless stated otherwise, and subject to any statutory rights, items in this catalogue carry a standard warranty of 90 days from date of purchase. If you are not supplied with a guarantee card, keep your sales docket, including cash register receipt, in a safe place, as the sales docket will become your guarantee card. If your purchase requires warranty service within the warranty period, you will be requested to produce your docket when returning the product under warranty for repair.

4. Freight. Although repairs under warranty are carried out free of charge, the customer is required to pay the freight both ways. Therefore, to save yourself money, make absolutely certain that the unit is faulty before returning for repair.

QUANTITY/RESELLER'S PRICES

On many of our lines we can offer extremely attractive prices for large quantities. Our wholesale company will be glad to advise you on either large quantity purchases or purchasing for re-sale. (In normal circumstances, all sales tax is paid on our goods on the understanding that the goods are not to be re-sold. This keeps the price down for the hobbyist). For enquiries regarding re-selling or quantity prices, please call

DSE Wholesale,
Cnr Lane Cove & Waterloo Rds,
North Ryde, NSW, 2113
Telephone 888 3200

SCHOOLS, COLLEGES, ETC.

We supply a very large number of schools with components, etc for their electronics courses. Obviously, the bulk discounts apply for schools purchasing in quantity. A 30 day account is available for schools — please apply direct to the General Manager on your school letterhead.

SALES TAX

All prices shown in this catalogue include sales tax, where applicable. Goods can only be supplied less tax, if:

1. A sales tax number or exemption certificate is supplied on an official order, or
2. The goods are to be directly exported by us, or
3. Travel documents, etc. are supplied by bona-fide overseas travellers. (See 'Overseas Travellers')

In all cases for sales tax exemption, the minimum value of each item must be at least \$20.

SUBSTITUTION

When a certain product is no longer available, where possible we will substitute an equal or better quality product on the understanding that a substitute is available. If our purchasing power makes this substitute cheaper, then we will pass the savings on to the customer. If, however, we can improve on the product, the price could either increase or remain the same as the original product. To summarise, all prices and specifications are subject to change without notice.

COMPUTER HOTLINE

If you have any queries or problems regarding our range of computers or peripherals, call the Computer Hotline for assistance.

Information on many other DSE technical products, such as Yaesu amateur radio products, CB & Marine radio, etc., may also be obtained through the Computer Hotline.

Answers, particularly on non-computer products, may not always be available immediately. However, someone will call you back with the information you require.

9.00am to 5.00pm
Monday to Friday
On (02) 888 2002



PRICES ON PRODUCTS

All prices in this catalogue were checked at time of compilation, but are subject to change without notice.

The price savings shown are either off our previous price, or off our competitor's normal selling prices for equivalent goods.

TERMS

We can offer credit terms through AGC to customers who personally visit our stores. These terms are offered on condition that the customer is approved by the finance company ('TAP: To Approved Purchasers'). Terms are NOT available to DSXpress customers: we suggest you use your credit card.

RAIN CHECK POLICY

If advertised goods are sold out during the currency of the advertisement or if goods are otherwise unavailable for unforeseen reasons, our policy is to issue a 'Rain Check' to enable you to buy the goods at a later date for the advertised price. This does not apply to special scoop purchases limited stock offers and the like which will normally be noted as such and say 'No Rain Checks'.

OVERSEAS TRAVELLERS

As a service to overseas travellers visiting Australia, our stores can supply goods free of sales tax providing:

1. Airline tickets, passport, etc. are produced at the time of purchase.
2. Certificate 'C' is properly filled out and handed to the store manager.

NOTE: This concession is NOT available for Australians travelling overseas.

In order to avoid the obligation to pay sales tax, an overseas traveller must export his goods overseas within six months of purchase.

SPECIAL PURCHASES

We normally stock the goods shown in this catalogue and in our regular advertisements in the daily press and in electronics magazines. New items are continually being sourced and added to our range to cater for as wide a range of needs as possible. A great deal of effort is put into searching for new products. For this reason, it is impossible for us to purchase special items for individual customers outside our normal range. However, each store maintains a 'products asked for' book and if demand is sufficient for any particular item we will investigate the viability of stocking it in all stores.

QUOTATIONS

We do give written quotations if required. We must emphasise however, that prices are subject to confirmation at time of order. This is because there are many factors in our prices that are beyond our control and therefore responsibility.

STORE HOURS

All Dick Smith Electronics stores are open for trading during normal trading hours for their particular area (either 9 to 5.30 or 8.30 to 5). Many stores are also open for extended hours trading where applicable: please ring the store concerned for their particular hours. (Numbers on page 4)

LIABILITY

As the use of our products is completely beyond our control or supervision, we cannot be held responsible for damage or destruction, consequential or otherwise, of equipment or articles in or on which our products are used, attached, or otherwise employed.

Liability is limited to repair, replacement or refund (at our option) of goods purchased.

HAVE YOU ANY PROBLEMS OR COMPLAINTS?

We are particularly proud of the reputation our company has earned with electronics enthusiasts. The last thing we want is an unhappy customer. If there is something that you don't like, or if you have any suggestions which may help us serve you better please let us know. Every call or letter will receive personal attention.

Because problems can be solved most quickly at local level, we suggest that our State Managers will be able to help you best. Contact them on the following direct numbers:

NSW: (02) 888 3200
Vic/Tas: (03) 674 781
Qld: (07) 391 6490
WA: (08) 227 8243
SA/NT: (08) 212 3159

SATISFACTION GUARANTEE

If for any reason you are not satisfied with your purchase, return the goods to us within 7 days of purchase, in original condition and in original carton, and we will exchange or return your money, less transportation costs. Goods returned to us must be unmarked and in the exact condition as supplied. You must include all sales dockets when you return the goods. This policy does not cover semiconductors, valves, books and computer software. For mail order customers, our guarantee period is specially extended to 14 days.



ELECTRONIC ORDERING

Electronic ordering is quickest and easiest. For your convenience, we have also included two mail order forms in this catalogue. Orders on this form receive preferential treatment over all other systems except electronic ordering. Extra forms are despatched with each order.

CATALOGUE NUMBERS

To minimise the chance of error in your order please use the catalogue number as well as a description of the product.

PAYMENTS

Money orders or crossed cheques to be sent with order. DO NOT SEND CASH through the post. Please make money orders payable at North Ryde Post Office, and cheques made payable to Dick Smith Electronics.

CREDIT CARDS

For your convenience, we accept orders for mail orders on Credit Cards. The minimum order value Bankcard, Visa, Mastercard, American Express and Diners Club purchase is \$5.

DSXpress TOLL-FREE PHONE ORDER

To make ordering even easier we have installed a special 'Order-by-Credit Card' phone line. To place an order, ring us on

(008) 22 6610

For the price of a local call, anywhere in Australia, 24 hours a day (answer machine takes your order after hours). Quote your credit card number and street address and we'll have your order on its way within 24 hours. Mail Order enquiries or Sydney area orders should be directed to the normal DSXpress Number:

(02) 888 2105.

NEW ZEALAND CUSTOMERS

Despite opening 11 DSE stores throughout New Zealand with their own DSXpress order centre, we still have a large number of New Zealand customers buying from DSXpress (mainly because of the increased range available). When buying from overseas, please remember to take into account currency differences between your currency and the Australian Dollar.

NEW ZEALAND BANKCARD

We accept New Zealand Bankcard as payment for international mail orders. Simply fill in the Bankcard details on the Mail Order Form.

OPEN CHEQUES

If you are not sure of the total amount of your mail order and are paying by cheque, simply cross the cheque and make it payable to Dick Smith Electronics. Leave the amount blank, and we will fill in the cost of the goods and delivery charges if applicable. This eliminates charging for small balances or issuing credit vouchers. Many of our customers have been using this system for years and find it very satisfactory.

MINIMUM MAIL ORDER VALUE

The minimum order amount is \$5 unless

otherwise implied in 'Special Offers' through advertisements.

OVERSEAS MAIL ORDERS

We are happy to sell to foreign countries. Simply address your order to 'DSXpress International Mail Orders' at the above address on the mail order form or phone **ISD 612 888 2105**. Where possible, we will deduct Australian Sales Tax (note the \$10 minimum for sales tax exemption).

On more expensive items, the savings in Sales Tax could mean the cost of freight is recovered. Remember, however, that you may have to pay Customs and importing charges at your end (if applicable). We cannot supply full Customs documentation, but all parcels include the required customs dockets.

We would also remind overseas customers that our guarantees are 'ex store'.

If, for any reason, goods are returned to us from overseas (eg for service, etc) it is absolutely essential that Customs documents are included. If they are not it can be a very costly process to obtain Customs Clearance and this charge must be paid by the customer. Failure to include Customs documents can also result in long delays.

REGISTRATION

The customer may nominate registration and insurance for his goods. Where this is not specified, the goods will be sent at the customers — your — risk!

DAMAGED GOODS

All claims for damaged or missing goods must be filed with the carrier concerned — do not

open parcel if you suspect that the goods are damaged.

DESPATCH OF ORDERS

All goods in stock are despatched promptly. Goods out of stock are 'Back Ordered' and sent later at our expense (and it's an extremely costly job) unless we advise otherwise. All back orders are despatched immediately we receive the goods from our suppliers. When we send a copy of your order back to you, the delay times will be quoted, but because this information is given to us by our suppliers we cannot guarantee their accuracy. We will advise you of any further delays monthly. Minimum back order value \$10.

ENQUIRIES ON ORDERS

If you wish to enquire in any way about your order, please give FULL DETAILS. Give date of posting your order to us, your name, address and postcode, a list of the products ordered, any relevant mail order/cash sale invoice numbers. If the above are not given, we have no way of checking your order. Please quote Customer Number for fast efficient service.

PHONE ENQUIRIES ON ORDERS

You are welcome to enquire about your order by phoning our enquiry line **(02) 888 2105**. Because our system is computerised, we can normally give you the information you want very quickly — at most within a couple of minutes.

Before phoning, please have available your customer number (from your last invoice or from any correspondence), name and address on order, and the information required.

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